

RESEARCH REPORT

Modeling Income in the Near Term

Version 8

Final Report

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Aaron Williams was responsible for implementing the MINT2014 projections. This implementation included mapping the Survey of Income and Program Participation (SIPP) 2014 variables to the SIPP 2008 variables, imputing marriage histories and pension and retirement variables for Social Security Supplement nonrespondents, and adjusting the MINT8 projection code to work for the SIPP 2014 data.

Stipica Murdrazija was responsible for updating the Health and Retirement Study retirement models and health and work limitations models. Barbara Butrica contributed to the Panel Study of Income Dynamics homeowner with a mortgage estimation.

Karen Smith was the principal investigator for the MINT8 contract, but MINT8 represents the cumulative contributions of numerous researchers who have worked on MINT since its first implementation in 1999. While not an exhaustive list, Karen Smith, Melissa Favreault, Eric Toder, Gary Burtless, Barry Bosworth, Claudia Sahm, Cori Uccello, Richard Johnson, Jon Bakija, Timothy Waidmann, Kevin Perese, John O'Hare, Caroline Ratcliffe, Barbara Butrica, Douglas Wissoker, Jillian Berk, Lawrence Thompson, Douglas Wolf, Constantijn Panis, and Lee Lillard made substantive contributions to the model's development over the years under the direction of Social Security Administration project director Howard Iams, who directed all prior versions of MINT.

Abstract

The Model of Income in the Near Term, version 8 (MINT8) is a tool developed for the Social Security Administration to project future retirement incomes and analyze the distributional effects of Social Security reform proposals. MINT8 expands on earlier model versions by adding work-related expenses, child-care costs, child support payments, and homeowner with a mortgage status, which are used to estimate supplemental poverty rates. MINT8 also updates numerous model components to use more recent data and account for changes in income and assets through the Great Recession. MINT8 starts with pooled 2004 and 2008 Survey of Income and Program Participation data linked to administrative earnings and benefits records through 2015. MINT8 projects outcomes through 2099 for the 1905 to 2067 birth cohorts. Projections include marriage, divorce, and mortality; immigration and emigration; labor force participation and earnings; disability and health status; retirement and Social Security benefit take-up; employer benefits and work history; income from defined benefit pensions and accruals in defined contribution retirement accounts; financial and housing wealth; Supplemental Security Income eligibility and benefits; other government benefits; total family income; payroll, federal, and state income taxes; Medicare surtax; work expenses, child care expenses, and child support payments; out-of-pocket spending on health insurance premiums and medical services; and official and supplemental poverty rates.

Executive Summary

This report provides information about changes made to version 8 of the Model of Income in the Near Term (MINT8) compared with its prior version, MINT7. A brief but comprehensive overview of MINT is included in the MINT primer (Smith and Favreault 2019), which provides the source details for each of the major components in MINT as they have evolved over MINT's multiyear history. The present report describes the changes implemented between MINT7 and MINT8, documents the updated model coefficients and model outcomes, presents summarized results for key model outcomes, and recommends future model developments.

Each version of MINT improves on and expands the suite of modeled outcomes relative to the prior version. The following significant changes were made between MINT7 and MINT8:

- MINT8 expands the set of birth cohorts included in the projection sample. MINT7 included individuals born from 1926 to 2067. MINT8 adds individuals born before 1926 who were included in the Survey of Income and Program Participation (SIPP) starting sample. The oldest individual in MINT8 was born in 1905.
- MINT8 uses more recent administrative earnings, benefit receipt, and death data. The administrative data extend to 2015 and include important employment, earnings, and benefit claiming effects from the Great Recession that were uncertain in the 2010-based MINT7 data.
- MINT8 uses 2018 Social Security Board of Trustees economic and demographic assumptions (Board of Trustees 2018), while MINT7 used the 2012 assumptions.
- MINT8 updates and expands its defined benefit (DB) pension plan information database to include 484 state and local DB pension plans. These added plans were obtained from the Urban Institute's State and Local Employee Pension Plan database, which includes state and local government pension plan descriptions, including whether the plan is covered by Social Security. The MINT7 state and local employee pension plan database included only 62 plans from a limited number of states and did not include Social Security coverage information.
- MINT8 adds projections of uncovered pensions used to calculate the windfall elimination provision and government pension offset.
- MINT8 increases the share of workers with DB plans compared with MINT7 and changes the assumptions about the rate at which employers shift from DB plans to defined contribution

pensions. MINT7 assumed that between 2007 and 2016 all private-sector nonunion DB pensions would implement a hard freeze (accruals cease for all participants) and two-thirds of state and local DB pensions would soft freeze (existing participants allowed to continue to accrue benefits). MINT8 assumes that between 2008 and 2016, 49 percent of private-sector nonunion DB pensions, 20 percent of private-sector union DB pensions, and 57 percent of state and local pensions would freeze. Among frozen DB plans, MINT8 assumes all state and local plans and 27 percent of private-sector plans would soft freeze, and 73 percent of private-sector plans would hard freeze.

- MINT8 updates the federal income tax model to use tax donor records generated from the 2009 Statistics of Income microdata file matched to 2008 SIPP data. MINT7 used 2001 Statistics of Income data (Smith et al. 2007). MINT8 also updates the federal income tax parameters through 2019, including the provisions passed in the 2012 American Taxpayer Relief Act and 2017 Tax Cut and Jobs Act. In addition, MINT8 updates the state income tax parameters through 2013.
- MINT8 changes the tax parameter growth assumptions. The Tax Cut and Jobs Act modified the tax threshold inflation provisions to increase with the chained current price index instead of the current price index. MINT8 uses the Tax Cut and Jobs Act assumptions through 2099. MINT7 price indexed thresholds through 2023 (10 years) and wage indexed thresholds thereafter. MINT8 will generate higher income tax liabilities than MINT7 due to more rapid bracket creep from the changed parameter indexing.
- We aligned MINT8's fertility projections to the 2018 Board of Trustees fertility assumptions by age and cohort. Importantly, MINT8 generates individuals born between 1980 and 2067 based on the Social Security Administration's POLISIM model. Fertility in MINT8 is only used to generate Social Security child benefits, to calculate income taxes and credits, and to project savings and living arrangements.
- MINT8 improves the calculation of supplemental poverty by adding four components that were not included in MINT7 (see chapter 1):
 - » work-related expenses,
 - » child care expenses paid during work hours,
 - » child support payments,
 - » homeowner with a mortgage determination.

- MINT8 adds state-specific implementation dates for the Affordable Care Act Medicaid expansion. These dates include anticipated Medicaid expansions in Idaho, Maine, Nebraska, and Utah in 2019 resulting from the November 2018 election.
- MINT8 updates the models for retirement by using more recent data from the Health and Retirement Study (see chapter 2).
- MINT8 adds same-sex marriage.
- MINT8 uses the updated Social Security benefit calculator from the Social Security Administration's Office of Research and Evaluation. MINT7 used an earlier Office of Research and Evaluation benefit calculator.
- We developed a series of SAS programs to help automate updating MINT to use alternate Board of Trustees economic and demographic assumptions.
- We implemented a parallel MINT model based on the 2014 SIPP data (MINT2014). The MINT8 model is based on pooled 2004 and 2008 SIPP data. The MINT2014 model includes all the features included in the MINT8 model. MINT2014 projections are similar to MINT8 projections for virtually all key elements. More information about MINT2014 is included in chapter 3.
- MINT8 expands the set of validation analyses to include comparisons with published Statistics of Income tax data, W-2 wage reports, and the Social Security Administration's Statistical Supplement. The validation also includes a set of validation spreadsheets that compare MINT8, MINT7, MINT2014, the Current Population Survey, the American Community Survey, and DYNASIM4 by age, year, sex, and race for numerous outcomes.

Report Overview

This introduction outlines Modeling Income in the Near Term, version 8 (MINT8) results and briefly describes how they differ from results projected in MINT7.

Chapter 1 provides an overview of the methods used to add four components to the supplemental poverty calculation that were not previously used in MINT: work-related expenses, child care expenses during working hours, child support paid, and homeowner with a mortgage.

Chapter 2 provides updated Health and Retirement Study (HRS) probit parameter estimates for the retirement models and information on the revised Social Security claiming model.

Chapter 3 provides information about generating MINT2014. MINT8 is based on a starting sample of pooled data from the 2004 and 2008 Survey of Income and Program Participation (SIPP). MINT2014 is a parallel version of MINT that starts with the 2014 SIPP. The main concern regarding the 2014 SIPP is its very low response rate to the Social Security Administration (SSA) supplement, a module administered by the Census Bureau to collect the marriage history, retirement plan and pension coverage, work disability, and adult and child disability topical modules. This chapter describes the methods we used to impute the starting values for key outcomes.

Chapter 4 summarizes key results for all major projections in MINT and replicates tables presented in the MINT7 report.

Summary of Model Projections

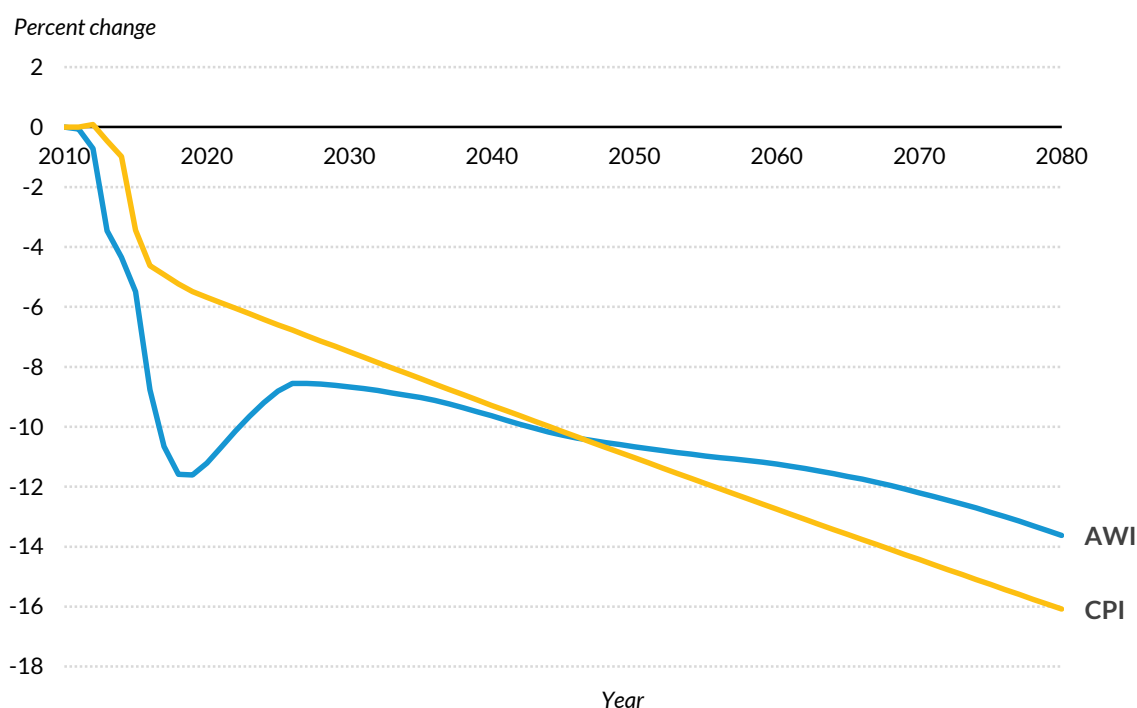
In addition to the new components in MINT8, the most important change between MINT8 and MINT7 is that MINT8 includes administrative earnings and benefit data for the Great Recession years, the effects of which were incomplete for the MINT7 projections. The Great Recession brought Americans the highest unemployment rates in a quarter of a century; a stock market crash of over 50 percent between October 8, 2007, and March 8, 2009; and a dramatic bubble and subsequent collapse of the housing market. The slow recovery after the Great Recession has deepened the impact on household income and assets compared with shorter recessions. The results presented below provide an updated outlook of the income and assets of the retired population at age 67 in 2020 and 2060 that account for the recession and most up-to-date economic assumptions. They also describe how the projections have changed since MINT7.

Updated Board of Trustees assumptions. MINT8 uses demographic and economic assumptions from the 2018 Board of Trustees intermediate cost assumptions. MINT7 used the 2012 Trustees intermediate cost assumptions. The updated Trustees assumptions affect MINT's long-term projections. Between 2012 and 2018, the Office of the

Actuary updated its average wage index (AWI) and current price index (CPI) values and growth rates as new data became available and SSA analysts revised their economic projections. Figure 1 shows the percentage change between 2018 and 2012 Trustees projected AWI and CPI from 2010 to 2080. The updated AWI and CPI values dropped sharply between 2010 and 2020, and both remain below their 2012 Trustees values throughout the projection horizon. Initial Social Security benefits are based on AWI and subsequent benefits, and poverty thresholds are indexed by CPI. Earnings are important predictors for most outcomes projected in MINT, so future projections are sensitive to AWI assumptions.

FIGURE 1

Percentage Change in AWI and CPI between 2018 and 2012 Trustees Assumptions by Year



Source: Urban Institute calculations from Board of Trustees (2012, 2018).

Employment and earnings. MINT8 captures the recession-related decline in employment and earnings directly from the administrative data (detailed earnings record [DER]) through 2015. We preserved the MINT7 recession adjustments in the MINT8 projections. This adjustment lessens the impact of the Great Recession on projected future employment and earnings. Without this change, MINT would replicate the recession for all projected cohorts. Compared with MINT7, MINT8 projects a more lasting dampening effect of the recession on employment and earnings after the recession. Both MINT7 and MINT8 projected an increase in the share of Social Security beneficiaries with positive earnings in the future, but the increase in the share of working beneficiaries is smaller in MINT8 than in MINT7.

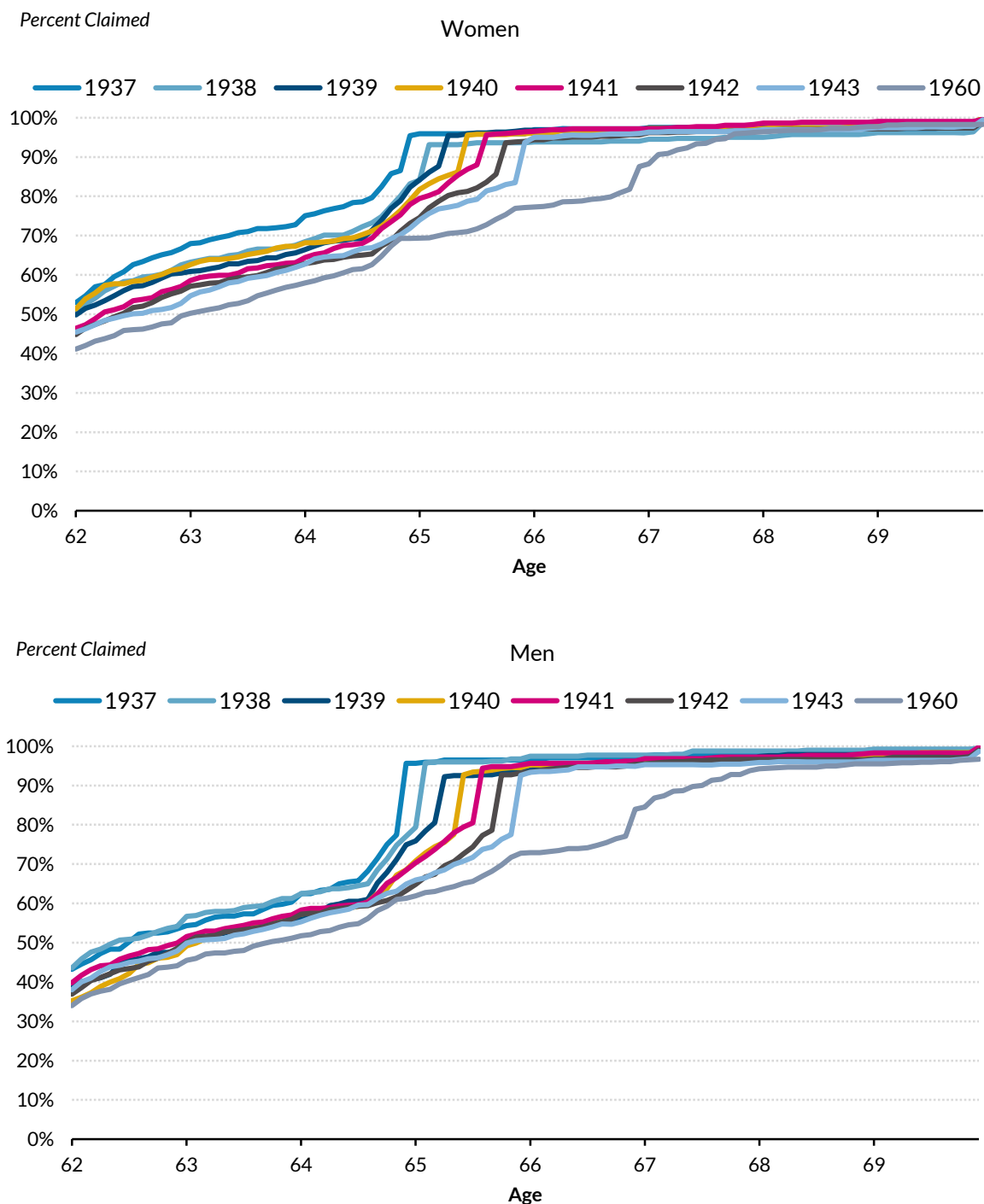
Several factors contributed to the lower projected employment in MINT8 compared with MINT7.

- We added a disabled adult child (DAC) indicator to the MINT8 sample based on self-reported work limitations and duration of disability. We assigned the DAC indicator to true for individuals in the SIPP data who reported they had never worked because of a limitation they have had since birth. We also imputed DAC to the extended population to match historic prevalence levels. We added the DAC variable to the earnings splicing program to better capture employment and earnings of people with severe work limitations who would not be eligible for disability insurance because of inadequate covered quarters.
- We included institutionalized individuals in MINT8 who were excluded in MINT7. The SIPP-based starting sample is still restricted to noninstitutionalized individuals. MINT7 projected institutionalization and ceased future projections. MINT8 projects institutionalization and includes the institutionalized in all projections until death. We made sure all institutionalized people have health status set to “poor health” and work limitation status set to “unable to work.” Including institutionalized individuals helps MINT match SSA population projections, number of Social Security beneficiaries, and amount of benefits spending.
- We updated the MINT8 retirement models by using HRS data through 2016. The estimation data now include information for recession years and information on work and retirement for individuals facing an increasing full retirement age (FRA). It also includes workers’ initial response to access to affordable health insurance available beginning in 2014 through the Affordable Care Act (ACA) health insurance exchanges. The Congressional Budget Office estimates that the ACA would reduce labor supply by about 2 million full-time-equivalent workers (Harris and Mok 2015).
- We corrected a MINT7 programming error that understated family Social Security income and assets used in the retirement model. Higher income and assets in the MINT8 retirement model generate earlier retirement than in MINT7.

Social Security claiming. We updated the MINT8 Social Security claiming model to better account for the scheduled increase in FRA (figure 2). The MINT7 claiming model specified a set of age dummy variables based on calendar year age. We modified the age dummies to be age relative to FRA in months. The revised claiming model preserves the claiming hazard slope from age 64 to FRA. It projects claiming spikes at FRA as FRA increases from age 65 to age 66 for individuals born from 1937 to 1943. The claiming age spikes increase again for individuals born from 1954 to 1960 as FRA increases from age 66 to age 67. MINT8 projects claiming spikes at FRA as it increases in two-month intervals in sync with the increase in FRA. Compared with MINT7, MINT8 projects fewer people in later cohorts to claim at age 65 and more to claim at ages 66 and 67.

FIGURE 2

Percentage of Men and Women Who Have Claimed Social Security by Age and Selected Birth Year



Source: Urban Institute tabulations from MINT8.

Notes: The figure shows the percentage of men and women who have claimed Social Security benefits by age among never-disabled individuals with 40 or more covered quarters. The ages reported range from 62 years 1 month to 70 years 0 months.

The share of never-disabled individuals claiming at age 62 is projected to fall sharply from cohorts born in 1930 to cohorts born in 1970. MINT8 projects that about 38 percent of never-disabled individuals born after 1970 claim benefits at age 62 compared with the 57 percent who claimed at age 62 for those born between 1930 and 1939. As in MINT7, MINT8 projects workers with low lifetime earnings to claim earlier than workers with high lifetime earnings.

Homeownership and home equity. The timing of the wealth topical modules in the 2004 and 2008 SIPP panels largely skirted the housing bubble and bust. The Case-Shiller composite-20 index increased 20 percent from winter 2004 to summer 2006 and then fell to 85 percent of its 2004 value by winter 2009.¹ The 2004 SIPP collected home equity data in winter 2004, and the 2008 SIPP collected home equity data in winter 2009. For 2004 SIPP respondents, MINT projected a smooth growth in home equity that captures the evolution of home equity with age without projecting the housing bubble and collapse. The Census Bureau collected 2008 SIPP values after the market collapse. Comparisons of MINT8 home ownership and home equity with 1989–2016 Survey of Consumer Finances data show that projected trends, although they smoothed over the bubble, are consistent with longer-term trends in home ownership and home equity by age and cohort. More details on homeownership and home equity are included in chapter 4.

Defined benefit pension freezes. Changing the assumptions about the rate of future defined benefit (DB) pension freezes changed the mix of future pensions between MINT8 and MINT7. MINT8 assumes a slower rate of change from DB pensions to defined contribution (DC) pensions than did MINT7. MINT8 continues to project a decline in DB pension prevalence over time, but the decline is less sharp than was projected in MINT7.

DC pension assets. We adjusted the DC pension contribution model to better align projected DCs with published DC characteristics reported from Internal Revenue Service (IRS) published W-2 reports by age, year, Medicare earnings level, tax filing status, and adjusted gross income. We also updated the stock and bond rate of return parameters to use historic values through 2018. MINT8 historic stock returns between 2011 and 2017 were higher than assumed returns in MINT7. The compounded nominal stock returns between 2009 and 2020 are 34 percent higher in MINT8 than MINT7, and the compounded nominal corporate bond returns between 2009 and 2020 are 19 percent higher in MINT8 than MINT7.

MINT7 kept worker DCs in employer accounts throughout the life cycle. MINT8 added DC rollovers to individual retirement accounts (IRAs) at job separation. Although the tax treatment of DC and IRA withdrawals are the same, adding rollovers to MINT8 facilitated validation against published statistics of income and IRS W-2 wage reports. Adding rollovers also improved the modeling of DC plan cash-outs to limit cash-outs to within-job accumulations. Compared with MINT7, MINT8 projects higher DC account balances at age 62 for all birth cohorts. More detail on retirement account assets is included in chapter 4.

Nonpension financial assets. Nonpension financial assets (including savings, checking, and money market account balances; stock and bond values; equity in vehicles, farms, businesses, and nonhome real estate less

unsecured debt) are modeled based on age-wealth profiles. Unlike DC account balances that are invested in stock and bond portfolios, financial assets vary with changes in lifetime earnings, marital status, and health status, among other factors. Because MINT8 projects lower lifetime earnings than MINT7, projected financial asset accumulations at age 62 are lower in MINT8 than in MINT7 for most, but not all, cohorts. More detail on nonpension assets is included in chapter 4.

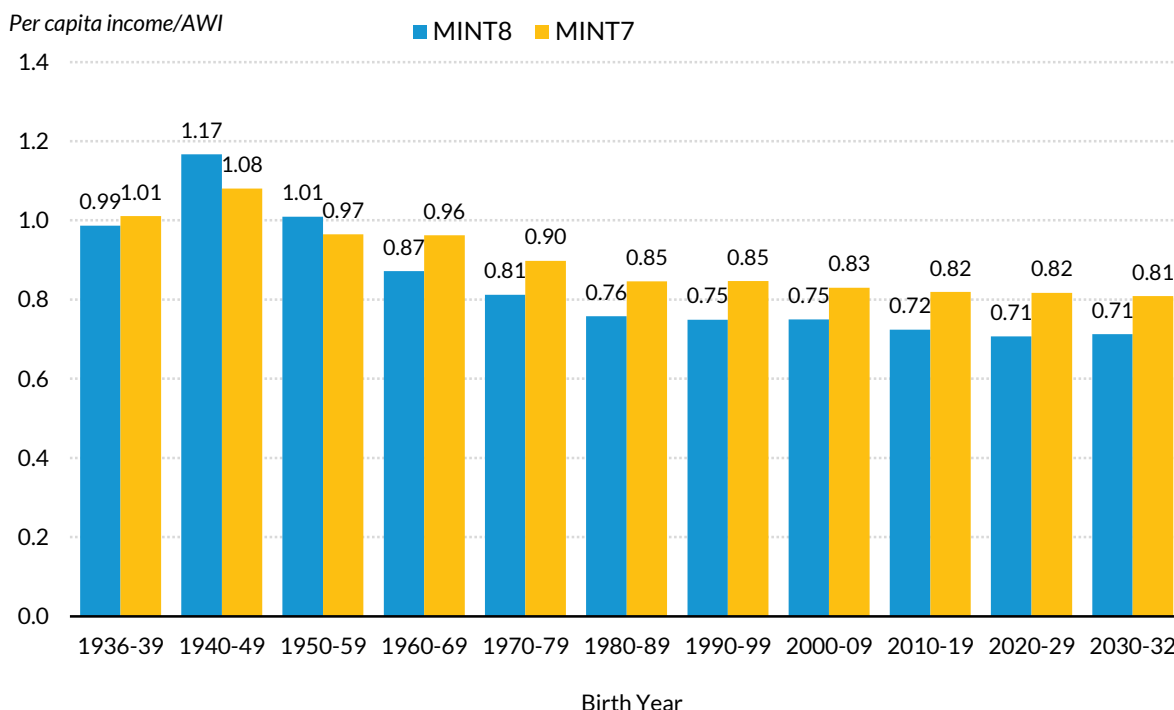
Per capita income at age 67. Projected per capita income relative to the average wage at age 67 is lower in MINT8 than in MINT7 for most cohorts (figure 3). The decline in projected age 67 income is largely due to lower projected Social Security benefits (figure 4) for individuals born after 1959 who claim benefits after the sharp reduction in projected AWI. The Social Security benefit formula wage indexes lifetime earnings to age 60 by using AWI. A reduction in AWI lowers the value of indexed earnings and is effectively a benefit cut relative to benefits generated with a higher AWI. MINT8 also projects lower per capita earned income at age 67 than MINT7 due to lower projected employment and earnings (figure 5).

Compared to MINT7, MINT8 projects that a larger share of total income at age 67 will come from DB pensions (figure 6) and a smaller share will come from financial assets (figure 7) because of the slower projected rate of DB pension freeze assumptions, but both MINT8 and MINT7 project a decline in DB pension income over time. Both MINT8 and MINT7 project an increased reliance on earned income as a source of financial support at age 67 over time, with over a third of age 67 income coming from earnings for all cohorts born after 1959 and facing a full retirement age of 67 (figure 8).

FIGURE 3

Average per Capita Income Relative to Average Wage at Age 67 by Birth Year

MINT8 and MINT7



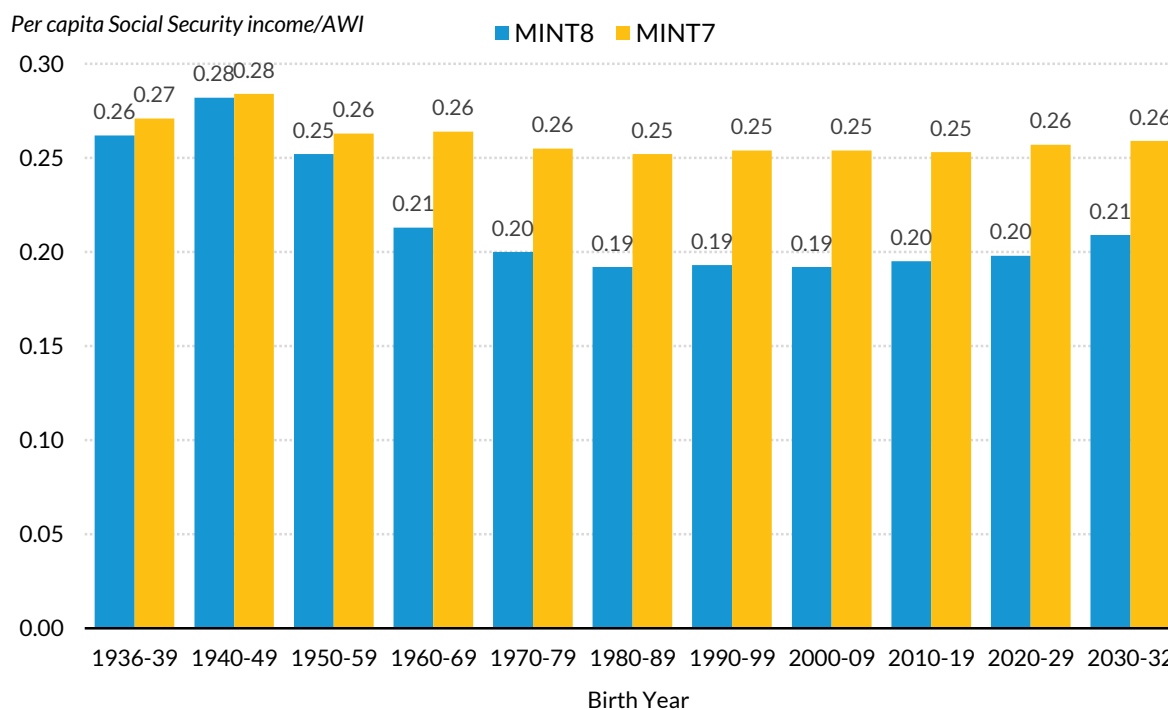
Source: Urban Institute tabulations from MINT7 and MINT8.

Notes: Per capita income includes earnings, Social Security, DB pension, annuitized asset income, imputed rental income, SSI, and means-tested and nonmeans-tested benefits. Couples split family amounts. To reduce the impact of outliers, the chart excludes individuals with financial income in the top 5 percent for their cohort.

FIGURE 4

Average per Capita Social Security Income Relative to Average Wage at Age 67 by Birth Year

MINT8 and MINT7



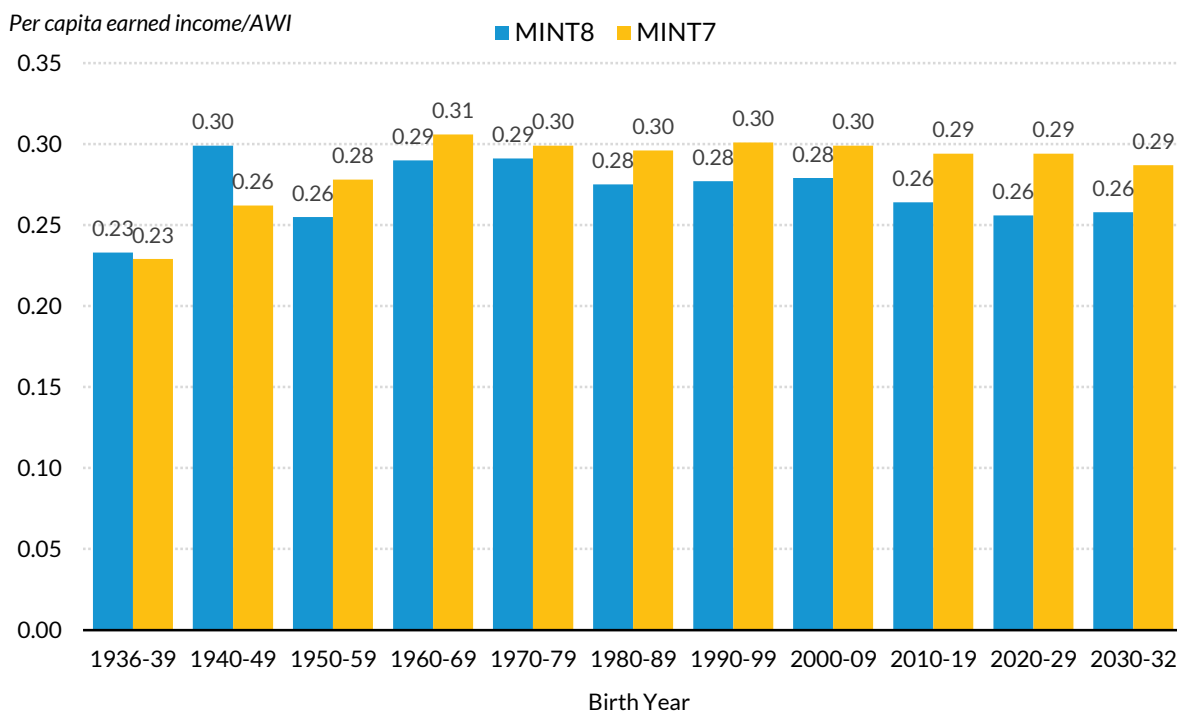
Source: Urban Institute tabulations from MINT7 and MINT8.

Notes: Couples split family amounts. To reduce the impact of outliers, the chart excludes individuals with financial income in the top 5 percent for their cohort.

FIGURE 5

Average per Capita Earned Income Relative to Average Wage at Age 67 by Birth Year

MINT8 and MINT7



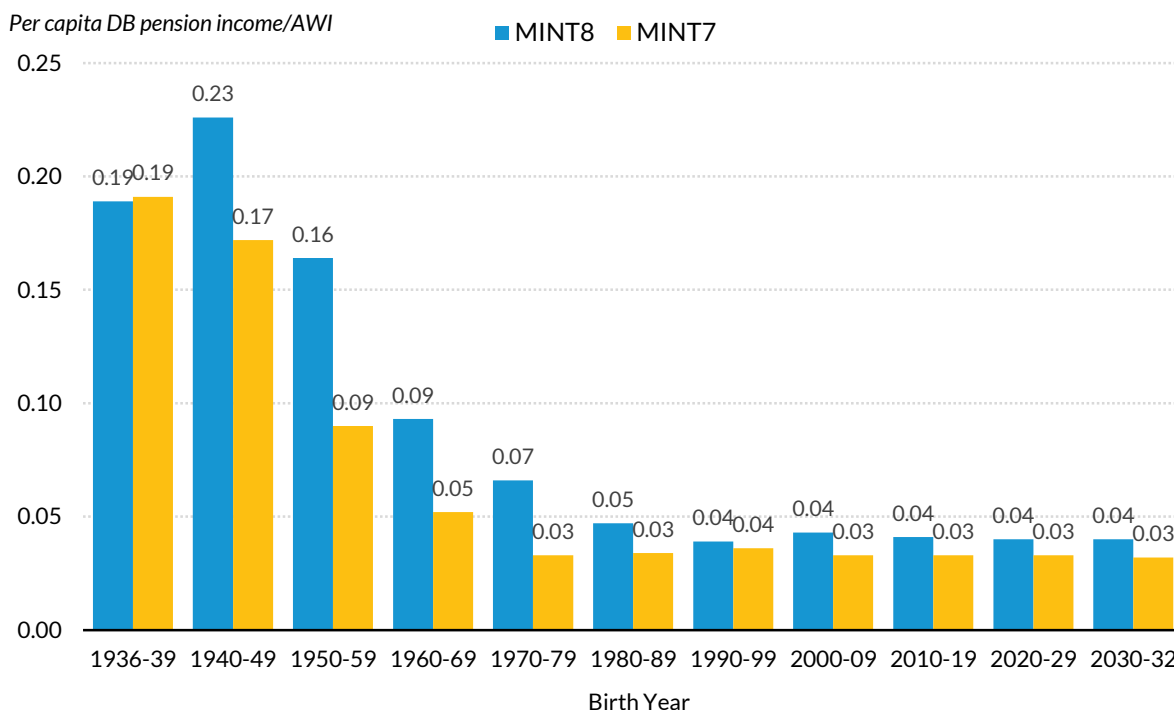
Source: Urban Institute tabulations from MINT7 and MINT8.

Notes: Couples split family amounts. To reduce the impact of outliers, the chart excludes individuals with financial income in the top 5 percent for their cohort.

FIGURE 6

Average per Capita DB Income Relative to Average Wage at Age 67 by Birth Year

MINT8 and MINT7



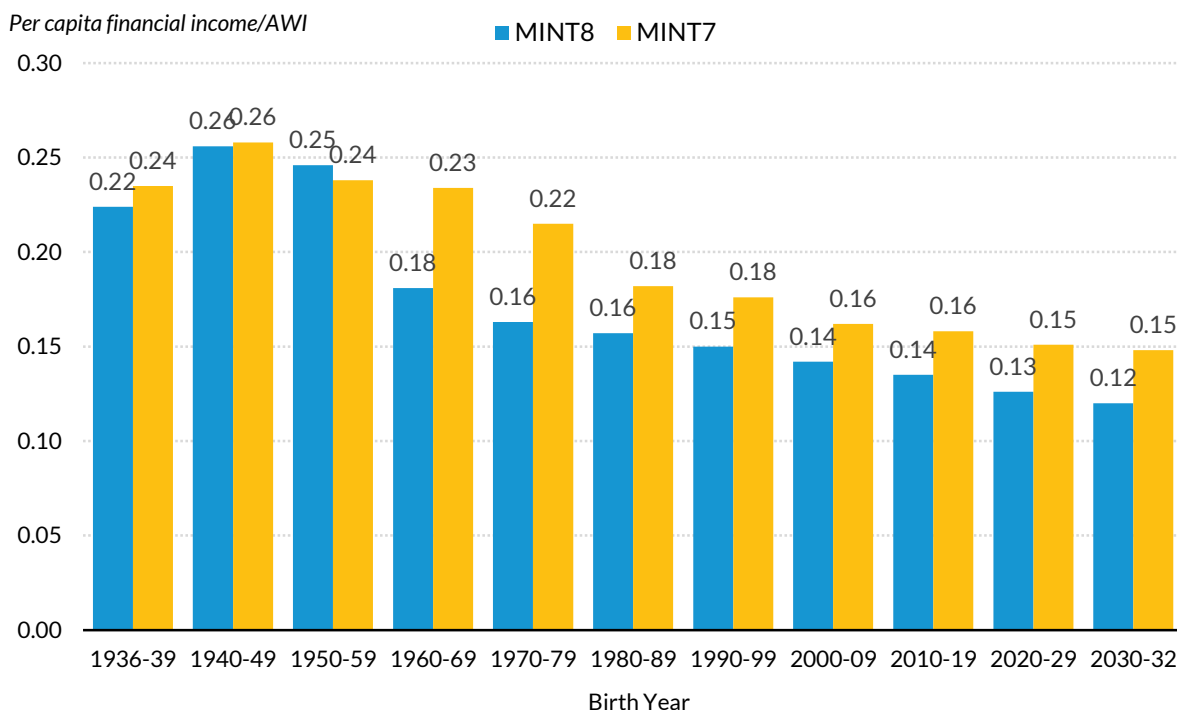
Source: Urban Institute tabulations from MINT7 and MINT8.

Notes: Couples split family amounts. To reduce the impact of outliers, the chart excludes individuals with financial income in the top 5 percent for their cohort.

FIGURE 7

Average per Capita Financial Income Relative to Average Wage at Age 67 by Birth Year

MINT8 and MINT7



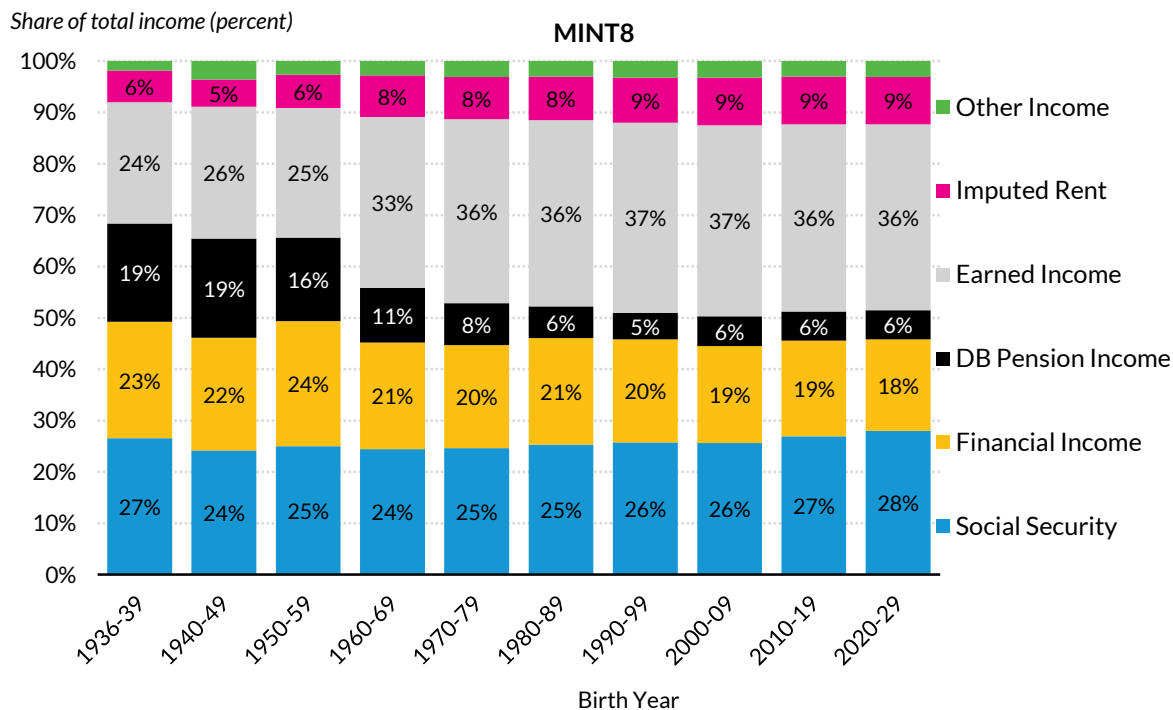
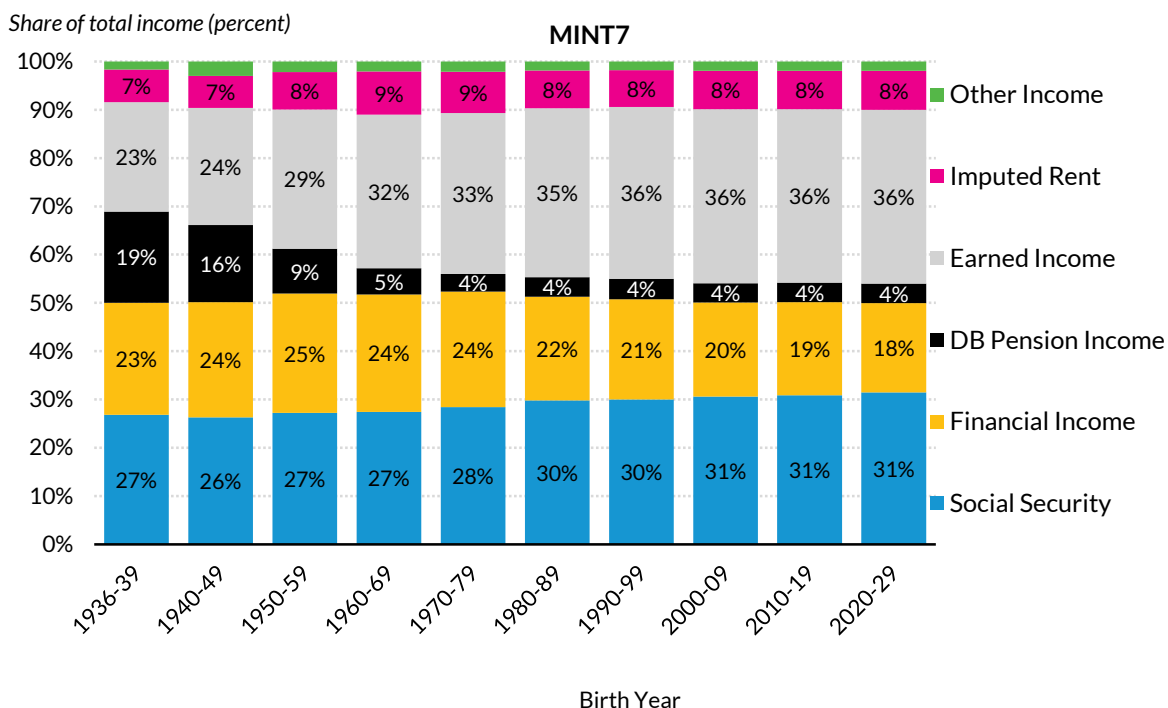
Source: Urban Institute tabulations from MINT7 and MINT8.

Notes: Couples split family amounts. To reduce the impact of outliers, the chart excludes individuals with financial income in the top 5 percent for their cohort.

FIGURE 8

Share of Total per Capita Income at Age 67 by Income Source and Birth Year

MINT8 and MINT7

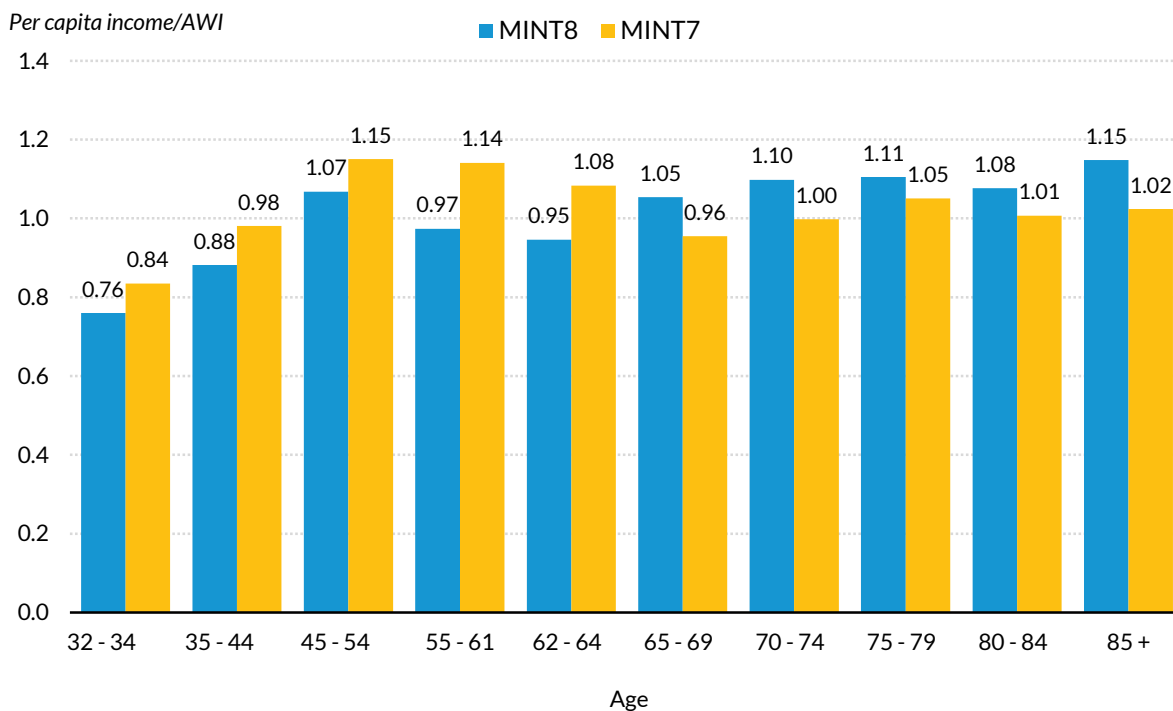


Source: Urban Institute tabulations from MINT7 and MINT8.

Per capita income in 2020. Average per capita family income relative to the average wage in 2020 is lower in MINT8 than in MINT7 for age groups under 65, but higher for age groups 65 and older (figure 9). The decline in income before age 65 is driven largely by lower projected average per capita earnings, especially for individuals ages 55 to 64 (figure 10).

FIGURE 9

Average per Capita Total Income Relative to Average Wage in 2020 by Age
MINT8 and MINT7



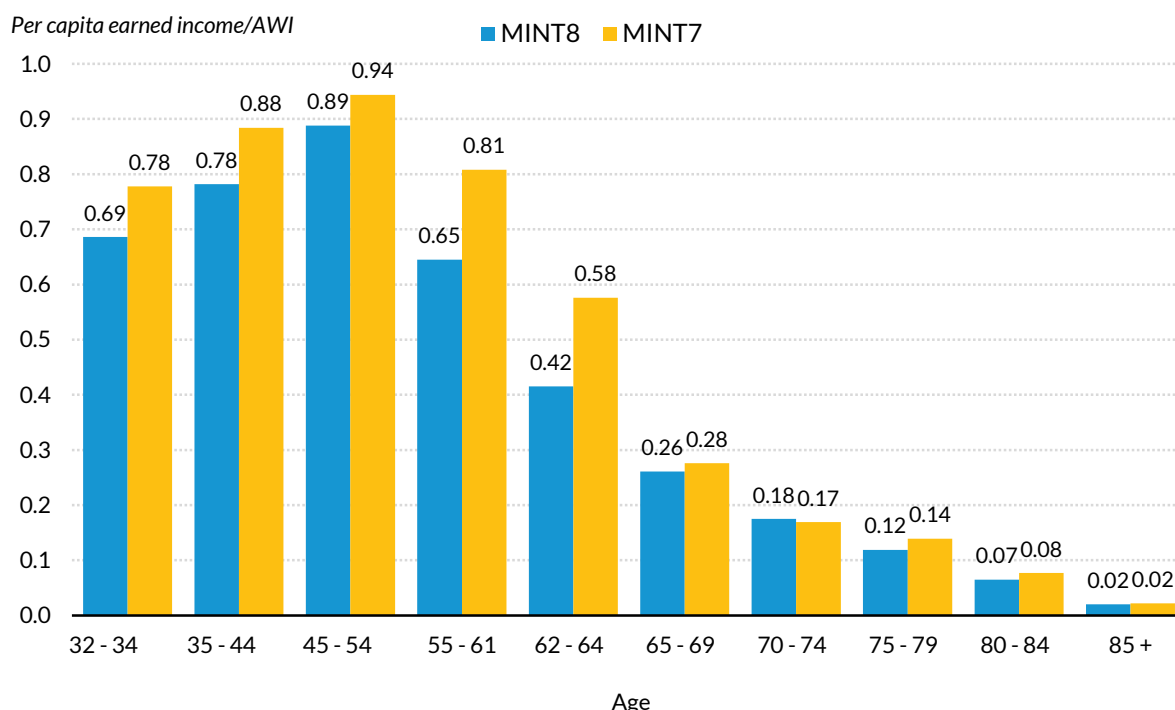
Source: Urban Institute tabulations from MINT8 and MINT7.

Notes: Per capita income includes earnings, Social Security, DB pension, annuitized asset income, imputed rental income, SSI, and means-tested and nonmeans-tested benefits. Couples split family amounts. To reduce the impact of outliers, the chart excludes individuals with financial income in the top 5 percent for their cohort. MINT8 includes individuals ages 95 and older in 2020 who were not included in MINT7.

FIGURE 10

Average per Capita Earned Income Relative to Average Wage in 2020 by Age

MINT8 and MINT7



Source: Urban Institute tabulations from MINT8 and MINT7.

Notes: Couples split family amounts. To reduce the impact of outliers, the chart excludes individuals with financial income in the top 5 percent for their cohort. MINT8 includes individuals ages 95 and older in 2020 who were not included in MINT7.

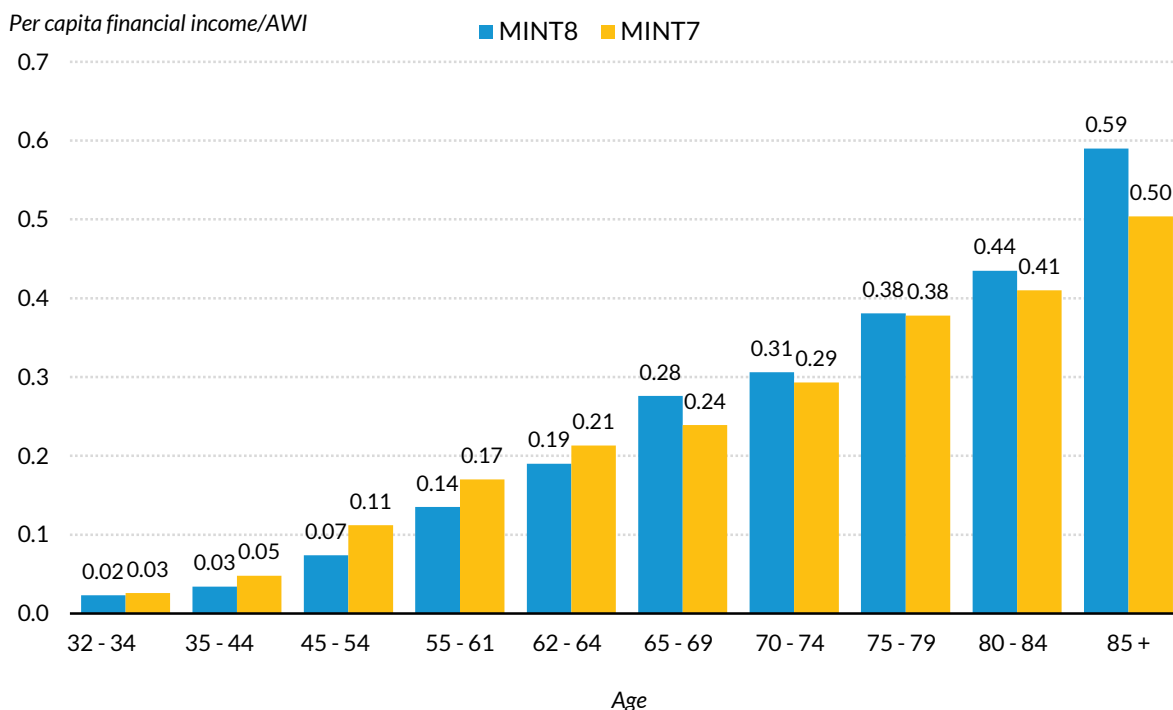
MINT's per capita income measure includes the annuity value of income from assets based on the fair market annuity the household could purchase with 80 percent of its retirement account and financial assets. Consistent with Smith, Soto, and Penner (2009) and Love, Palumbo, and Smith (2008), MINT projects that most seniors will not spend their assets at a rate that would reduce assets to zero at death. MINT also projects differential mortality, so wealthier individuals live longer than poorer individuals. This differential mortality means that at older ages, the MINT population selects disproportionately from wealthier individuals.

Because seniors do not spend assets down to zero at death, the annuity value of assets rises with age. For example, a 90-year-old with \$10,000 of assets expected to live one year would receive \$10,000 plus a return on this investment in annuitized asset income at age 90. But a 60-year-old with the same assets would receive substantially less each year because the annuitized asset income must be spread over the individual's remaining life. Rising asset income with age is a result of the properties of the annuitized asset income (figure 11).² More information on per capita income in 2020 is included in chapter 4.

FIGURE 11

Average per Capita Financial Asset Income Relative to Average Wage in 2020 by Age

MINT8 and MINT7



Source: Urban Institute tabulations from MINT8 and MINT7.

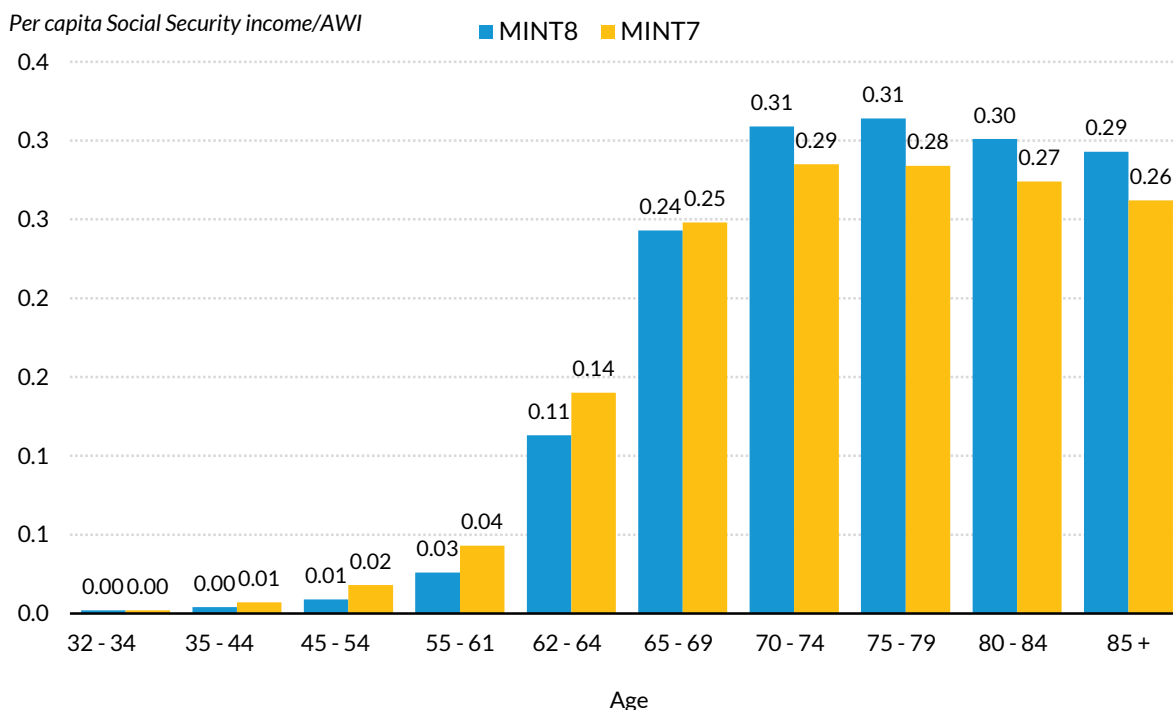
Notes: Couples split family amounts. To reduce the impact of outliers, the chart excludes individuals with financial income in the top 5 percent for their cohort. MINT8 includes individuals ages 95 and older in 2020 who were not included in MINT7.

MINT8 projects lower per capita Social Security benefits relative to the average wage before age 65 and higher benefits after age 65 than did MINT7 (figure 12). This change reflects the increase in delayed Social Security claiming. Compared with MINT7, fewer individuals in MINT8 claim benefits before age 65, and those who do tend to have lower lifetime earnings. Delayed Social Security claiming increases benefits by reducing the benefit reduction factors for early claiming. Individuals who delay claiming increase average per capita Social Security benefits after age 65.

FIGURE 12

Average per Capita Social Security Income Relative to Average Wage in 2020 by Age

MINT8 and MINT7



Source: Urban Institute tabulations from MINT8 and MINT7.

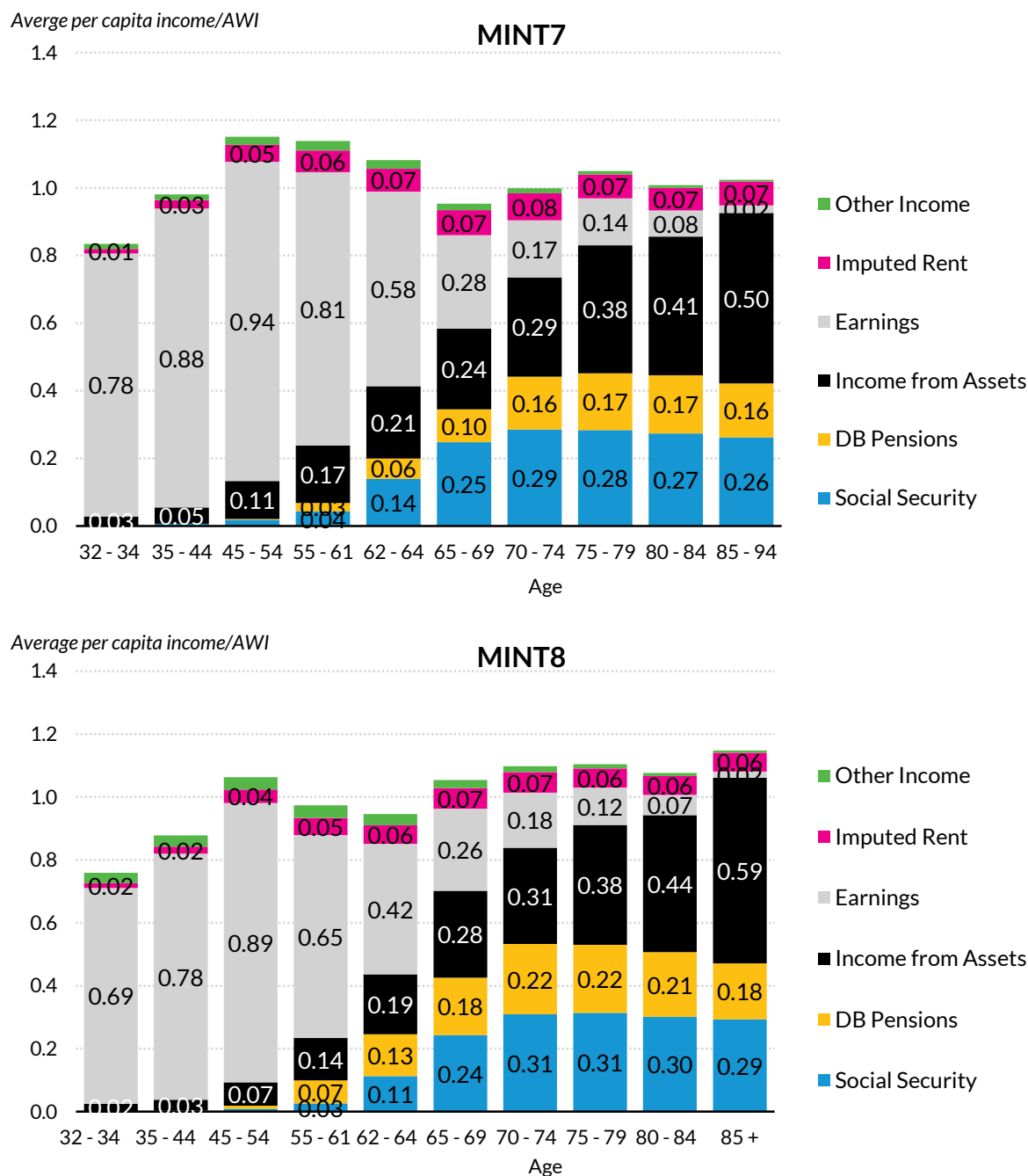
Notes: Couples split family amounts. To reduce the impact of outliers, the chart excludes individuals with financial income in the top 5 percent for their cohort. MINT8 includes individuals ages 95 and older in 2020 who were not included in MINT7.

Figure 13 compares the projected sources of per capita income by age in 2020 for both MINT8 and MINT7. Both versions of the model capture the progression of income sources with age. At younger ages, income is derived primarily from earnings, and those earnings rise with age through about age 55. After age 55, Social Security, DB pension, and asset incomes become more important sources of income. In the per capita measures, couples split family amounts. Older partners can benefit from the earnings of younger spouses, and younger partners can benefit from the Social Security and pensions of older spouses.

FIGURE 13

Average per Capita Income Relative to Average Wage in 2020 by Income Source and Age

MINT8 and MINT7



Source: Urban Institute tabulations from MINT8 and MINT7.

Notes: Couples split family amounts. To reduce the impact of outliers, the chart excludes individuals with financial income in the top 5 percent for their cohort. MINT8 includes individuals ages 95 and older in 2020 who were not included in MINT7.

MINT8 predicts a higher share of individuals will be eligible for Supplemental Security Income (SSI) at age 67 than did MINT7. The addition of the DAC indicator and the inclusion of institutionalized individuals add people to the sample at higher risk of receiving SSI.

Recommendations for Future Development

Assumptions applied to the model

The differences between MINT7 and MINT8 outlined above underscore how the success of a model like MINT in projecting outcomes depends critically on the assumptions that developers and users apply to the model. Although MINT calibrates many key assumptions (e.g., mortality rates and price and wage growth) to the intermediate assumptions (Board of Trustees 2018), other assumptions result from a series of choices that developers make.

We highlight key MINT8 assumptions that we recommend SSA analysts monitor and periodically revisit as new information becomes available. A first important assumption concerns the long-range effects that the Great Recession will have on labor force outcomes. A second concerns the continuing evolution of employer-provided retirement pensions. A third question is how implementation of the ACA will affect employer health insurance coverage, earnings and wages, health and mortality, and out-of-pocket medical spending in the future. A fourth assumption concerns how wealth, including housing wealth, will evolve in the coming decades. We discuss each of these issues briefly in turn.

Effects of the Great Recession. The last year of historic data in MINT8 is from 2015. Although the National Bureau of Economic Research dates the recession as having officially started in December 2007 and ended in June 2009, US labor markets were slow to recover from the historic slowdown. As we have noted in previous MINT analyses, the model's long-range projections of employment and earnings are highly sensitive to the model "launch point" (i.e., the last few years of historic data). Consistent with most long-range forecasting strategies, MINT currently assumes a reversion to prerecession patterns, though with some permanent scarring for individuals who were hard hit by the recession.

However, we have no way of knowing whether and how quickly US labor markets will rebound from current conditions. Some analysts are relatively optimistic, arguing, for example, that increasing relative wages in developing countries will reduce or even reverse the wage stagnation and employment losses that less skilled workers in the US have experienced in recent decades. Others are more pessimistic, and note continued concentration of economic gains among a very small segment of the working population. Likewise, withdrawal of baby boomers from the labor force could have mixed effects. Absent immigration, their retirement could lead to labor force shrinkage that limits overall economic growth, but it could also exert upward pressure on wages that might lead to better than anticipated outcomes for some segments of the post-baby boomer birth cohorts.

Because of this tremendous uncertainty about the future, we recommend that SSA analysts monitor labor market conditions. Should employment and wage growth be better or worse than projected in the current model, developers may need to adjust MINT's employment and earnings algorithms. Likewise, analysts should bear in mind that recession effects apply to more than earnings; important spillovers occur in other domains, like pension coverage, wealth accumulation, and even living arrangements.

Transitions in the pension world. As we noted in previous MINT reports, the employer-provided pension landscape has changed dramatically in recent decades. Projections of future well-being in retirement will depend critically on the extent to which current trends continue or reverse. MINT6, MINT7, and MINT8 all used different assumptions about pension freeze rates as more data became available. We recommend that SSA analysts monitor pension transitions and adjust the assumptions as needed.

Effects of the ACA. MINT8 incorporates a measure of supplemental poverty. Computing this measure required integrating out-of-pocket medical expenses, which in turn required understanding how out-of-pocket premiums will change in coming years. Computing these out-of-pocket costs required computing an entire sector of health insurance provision, including the implementation of the ACA.

Developing a comprehensive, long-range model of how the ACA might eventually affect key outcomes in MINT (employment, earnings, disability status, and mortality) was outside the scope of the contract. The literature is strongly divided on the size and sometimes even direction of potential effects of the ACA; see, for example, Technical Panel on Assumptions and Methods (2011). MINT8 generally assumes that existing patterns remain consistent in the presence of the new law. To the extent that the Trustees have come to an agreement about anticipated magnitudes of changes, MINT8 outcomes that are calibrated to the Old-Age, Survivors, and Disability Insurance Trustees assumptions, such as the assumption concerning wage growth, integrate these changes. We recommend that SSA revisit these assumptions as it becomes clearer whether or how the law has changed any of these key outcomes.

Evolution of wealth. MINT8 retirement account assets are investment in a blend of stocks, corporate bonds, and government bonds. Annual investment returns are centered around historic values through 2016. After 2016 MINT8 assumes real returns of 6.5 percent for stocks, 3.5 percent for corporate bonds, and 3.0 percent for government bonds based on average long-term trends. Annual investment returns should be updated annually as actual data become available.

Maintenance of MINT over time

Maintaining MINT as a tool that produces valid, high-quality projections requires periodic refreshing along several key dimensions. A first dimension is regular updates to assumptions in the Old-Age, Survivors, and Disability Insurance Trustees reports, especially when these assumptions change significantly between reports.³ A second dimension is updating to integrate additional years of administrative data as the data become available. A third dimension is updating the equations that project future outcomes in MINT. As this report indicates, we updated

several equations for MINT8. However, resource constraints prevented us from reestimating all of them. It is most important to update those equations in which patterns are changing rapidly over time and across cohorts. For example, although we updated the Pension Insurance Modeling System data and integrated target date funds to help modernize and revamp the pension model, we recommend SSA consider updating other pension functions. Similarly, some equations, such as for entry into institutions, are from MINT3 and may warrant revisiting in the relatively near term.

Caution about comparing projections from different versions of MINT

Users should bear in mind that subsequent versions of MINT reflect different samples. The appearance of an individual's data in MINT depends on appearing in SIPP, which in turn requires the individual's surviving until the SIPP interviews. For example, MINT3 includes a much larger share of the 1926 birth cohort than does MINT8 or MINT2014. An individual needed to survive until his or her early to mid-sixties (depending on the SIPP panel) to appear in MINT3, but needed to survive until age 82 to be included from the 2008 SIPP panel in MINT8 and until age 88 to be included in the 2014 SIPP. So, for example, if one wishes to compare outcomes for members of different cohorts at age 67 using MINT8, one should be aware that some cohorts will contain a full complement of projected survivors through age 67, while others will only contain those who survived significantly past age 67 (and thus likely disproportionately select from better-educated and higher-income members of the cohort).

Chapter 1. Added Supplemental Poverty Components

The MINT8 contract required adding four additional components that are included in the supplemental poverty measure that were not modeled in MINT7: work-related expenses, child support payments, child care expenses to care for dependents during work hours, and homeowner with a mortgage. This chapter describes how each of these components is estimated and projected in MINT8.

Work-Related Expenses

We added predictions of work-related expenses to the MINT8 pension module to increase the precision of the supplemental poverty measure. Projecting work-related expenses required four steps:

- Calculate the starting values from SIPP.
- Predict if workers drive alone to work (yes, no) by using a logistic regression.

- Use a lookup table to assign work expenses as a share of earnings based on commute mode, earnings divided by the average wage, and a random uniform variable.
- Multiply the share of earnings spent on work-related expenses by earnings to generate annual work expenses.

Calculate starting values

Starting values in MINT8 and estimation data are from the 2004 and 2008 SIPPs. Starting values for MINT2014 are from the 2014 SIPP.

We calculated annual work-related expenses for workers who answered the “work-related expenses” topical module as the combination of five SIPP variables as follows:

- Multiply weekly miles driven by the year-specific IRS mileage reimbursement rate.
- Add weekly parking and toll costs.
- Add weekly public transit costs.
- Divide annual other work-related expenses by 52.2 to create a weekly value of annual work-related expenses.
- Multiply weekly work expenses by the annual number of weeks worked to calculate annual work expenses.

This process mirrors the method used by the Census Bureau to calculate work-related expenses for the supplemental poverty measure. Table 1.1 shows the SIPP variable names we used to construct annual work expenses for each panel.

TABLE 1.1
SIPP Variables Used to Generate Annual Work-Related Expenses by SIPP Panel

Definition	2004 SIPP	2008 SIPP	2014 SIPP
Topical module	Tm6	Tm4	core
Weekly miles driven	epvmilwk	epvmilwk	tpvmile-treimbmic
Weekly parking and toll costs	epvpaywk	epvpaywk	tpvparkc
Weekly public transit costs	epvcomut	epvcomut	tpvothrc
Annual other work expenses	epvanexp	epvanexp	tpvoexpc
Number of weeks with a job	rmwkwjb{i}	rmwkwjb{i}	rmwkwjb{i}

Next, we divided work-related expenses by annual earnings to create the proportion of earnings spent on work-related expenses in a year. We capped the proportion of earnings spent on work-related expenses at 0.4536 for starting values and excluded observations with work-related expenses in excess of 0.4536 for the estimation.

The cap at 0.4536 corresponds with the 95th percentile of the proportion of earnings spent on work-related expenses for the pooled 2004 and 2008 SIPP data.

Predict if a worker drives alone to work

People who drive alone to work are more likely to have work-related expenses and to have higher work-related expenses than people who do not drive alone to work. We estimated a logistic regression model using pooled 2004 and 2008 SIPP data to predict if a worker drives alone to work. Independent variables include annual earnings divided by the average wage, a male dummy variable, age, age squared, union status, metro status, categorical education, categorical race/ethnicity, and categorical industry (table 1.2).

TABLE 1.2

Logistic Regression Coefficients for Predicting if a Worker Drives Alone to Work

Parameter	Parameter Estimate	Error	Pr > ChiSq
Intercept	0.8297	0.2049	<.0001
Annual earnings relative to the average wage	0.1079	0.0140	<.0001
Male	-0.2419	0.0269	<.0001
Age	0.0294	0.0082	0.0003
Age squared	-0.00031	0.0001	0.0001
Nonmetro (omit)			
Metro status	-0.0911	0.0349	0.0092
Union coverage	0.1147	0.0417	0.0059
Less than high school (omit)			
High school graduate	0.7199	0.0485	<.0001
College	0.7347	0.0542	<.0001
White non-Hispanic (omit)			
Black, non-Hispanic	-0.6786	0.0394	<.0001
Hispanic	-0.3013	0.0455	<.0001
Other, non-Hispanic	-0.4896	0.0492	<.0001
State and local government (omit)			
Federal or military	0.051	0.0873	0.5588
Private manufacturing	0.206	0.0566	0.0003
Private nonmanufacturing	-0.3485	0.0409	<.0001
Observations	47,935		
Mean share who drive to work	0.85		

Source: Urban Institute estimates based on pooled 2004 and 2008 SIPP data.

Note: The estimation sample included all workers ages 15 and older with data from the work-related expenses topical module, positive earnings and weeks worked, and work expenses as a share of annual earnings below 0.4536.

The probability of driving alone to work increases as earnings rise, increases as education rises, and increases as age rises but at a decreasing rate. It is higher for workers living in nonmetro areas than metro areas and higher for white non-Hispanics than for workers of color.

Use a lookup table to assign work-related expenses

We assigned the share of earnings spent on work-related expenses by using lookup tables based on transportation mode and annual earnings generated from the 2004 and 2008 SIPP data. Table 1.3 shows the mean and distribution of work-related expenses as a share of earnings by earnings group for workers who drive alone to work. Table 1.4 shows the same statistics for workers who do not drive alone to work.

On average, workers who drive to work (table 1.3) spend 8 percent of annual earnings on work-related expenses. The share of earnings spent on transportation declines as earnings rise. The median work expense as a share of earnings is 9.9 percent for workers with earnings below 0.3 times the average wage, but only 2.1 percent for workers with earnings above 2 times the average wage.

TABLE 1.3
Mean and Distribution of the Proportion of Earnings Spent on Work-Related Expenses among Workers Who Drive Alone to Work

Decile of Work-Related Expenses	Earnings/AWI						
	All	0 to 0.3	0.3 to 0.5	0.5 to 1	1 to 1.5	1.5 to 2	2+
Decile 1	0.006	0.009	0.008	0.007	0.006	0.005	0.003
Decile 2	0.016	0.027	0.021	0.018	0.015	0.012	0.007
Decile 3	0.027	0.046	0.036	0.029	0.024	0.019	0.011
Decile 4	0.038	0.070	0.051	0.041	0.033	0.027	0.016
Decile 5	0.051	0.099	0.069	0.055	0.043	0.035	0.021
Decile 6	0.067	0.130	0.093	0.072	0.056	0.045	0.028
Decile 7	0.088	0.172	0.125	0.094	0.072	0.058	0.036
Decile 8	0.117	0.223	0.165	0.125	0.097	0.076	0.047
Decile 9	0.160	0.289	0.229	0.175	0.132	0.105	0.066
Decile 10	0.257	0.385	0.346	0.288	0.228	0.187	0.127
Mean	0.083	0.145	0.114	0.090	0.070	0.057	0.036
Unweighted observations	40,677	4,277	4,426	12,713	8,742	4,609	5,910

Source: Urban Institute tabulations of pooled 2004 and 2008 SIPP data.

Note: The table includes all workers ages 15 and older with data from the work-related expenses topical module and work expenses as a share of earnings below 0.4536 who drive alone to work.

On average, workers who do not drive alone to work (table 1.4) spend 2 percent of earnings on work-related expenses, but 40 percent of workers who do not drive alone to work have no work-related expenses. As with drivers, work-related expenses as a share of earnings decline as earnings rise.

TABLE 1.4

Mean and Distribution of the Proportion of Earnings Spent on Work-Related Expenses among Workers Who Do Not Drive Alone to Work

Decile of Work-Related Expenses	Earnings/AWI						
	All	0 to 0.3	0.3 to 0.5	0.5 to 1	1 to 1.5	1.5 to 2	2+
Decile 1	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Decile 2	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Decile 3	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Decile 4	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Decile 5	0.001	0.000	0.000	0.000	0.000	0.001	0.000
Decile 6	0.005	0.000	0.006	0.007	0.004	0.004	0.002
Decile 7	0.016	0.002	0.027	0.021	0.011	0.009	0.006
Decile 8	0.029	0.031	0.048	0.034	0.020	0.016	0.011
Decile 9	0.054	0.095	0.072	0.049	0.032	0.026	0.018
Decile 10	0.135	0.244	0.154	0.110	0.088	0.082	0.060
Mean	0.023	0.037	0.030	0.022	0.015	0.014	0.010
Unweighted observations	7,258	1,655	1,102	1,887	1,056	620	938

Source: Urban Institute tabulations of pooled 2004 and 2008 SIPP data.

Note: The table includes all workers ages 15 and older with data from the work-related expenses topical module and work expenses as a share of earnings below 0.4536 who do not drive alone to work.

Multiply proportion of earnings spent on work-related expenses by earnings

We multiplied the predicted share of earnings spent on work-related expenses by the earnings in any given year to get the predicted annual amount spent on work-related expenses.

Implementation in MINT8

MINT8 starts with SIPP self-reported transportation mode and work-related expenses as a share of earnings. We assumed transportation mode remains unchanged for workers in each job. At each job start or job change, we predicted whether workers drive alone to work by using the estimated coefficients from the logistic regression model. We projected work-related expenses as a share of earnings by using lookup tables 1.3 and 1.4 depending on transportation mode and annual earnings divided by the average wage. Finally, we multiplied the share of earnings

spent on work-related expenses by total earnings to get the annual amount spent on work-related expenses. We included this value in the supplemental poverty measure.

The Census Bureau uses a different method to assign work-related expenses in its calculation of supplemental poverty in the Current Population Survey. The Census Bureau applies a flat weekly deduction to all individuals ages 18 and older for each week the individual worked during the calendar year. The flat weekly deduction is 85 percent of median weekly work-related expenses calculated from the SIPP. The deduction is capped at the total reported earnings of the lowest reference person or spouse/partner of the reference person in the family. The deduction for work-related expenses is the only resource adjustment included in the calculation of the supplemental poverty measure that comes from a survey other than the Current Population Survey (Mohanty, Edwards, and Fox 2017). The MINT8 projection includes more variation in work-related expenses than the Current Population Survey assignment.

Child Support Payments

We estimated a logistic regression using 2004 and 2008 SIPP data for the probability that an individual paid child support among parents whose own children under age 21 lived elsewhere with a parent or guardian (table 1.5).

TABLE 1.5

Logistic Regression Coefficients for the Probability an Absent Parent Pays Child Support

	Parameter Estimate	Standard Error	Prob > Chi
Intercept	-3.4937	0.275	<.0001
Age	0.0348	0.0138	0.0118
Age squared	-0.00076	0.000162	<.0001
Male	2.1254	0.0616	<.0001
High school graduate	0.3656	0.0737	<.0001
College graduate	0.4619	0.1028	<.0001
Postcollege attainment	0.2007	0.1289	0.1193
Married	0.2265	0.0703	0.0013
Divorced	0.4061	0.0705	<.0001
Widowed	0.6223	0.2669	0.0197
Number of absent children (capped at 3)	0.364	0.0336	<.0001
Log of total person income (\$2,015 wage-adjusted dollars)	0.0902	0.0085	<.0001
Unweighted observations	9,491		

Source: Urban Institute estimates from 2004 and 2008 SIPP data.

Note: Estimates are limited to individuals with children under age 21 living elsewhere with a parent or guardian.

For individuals who pay child support, we estimated an ordinary least squares (OLS) regression on the monthly amount of child support paid. OLS parameter estimates are shown in table 1.6.

TABLE 1.6

OLS Parameter Estimates for Monthly Child Support Payments among Parents Paying Child Support

	Parameter Estimate	Standard Error	Pr > t
Intercept	-434.4405	55.8242	-7.78
Age	10.6109	2.74921	3.86
Age Squared	-0.1075	0.03235	-3.32
Male	149.2281	15.96835	9.35
High school graduate	77.1289	15.31816	5.04
College graduate	239.0455	19.61755	12.19
Postcollege attainment	326.4035	24.90169	13.11
Married	1.2207	13.35697	0.09
Divorced	42.0808	13.43094	3.13
Widowed	48.0618	54.2389	0.89
Number of absent children (capped at 3)	137.1331	6.00578	22.83
Log of total person income (\$2,015 wage-adjusted dollars)	24.6370	1.90139	12.96
R-squared	0.2470		
Root mean squared error	283.04		
Unweighted observations	4,455		

Source: Urban Institute estimates from 2004 and 2008 SIPP data.

Note: Estimates are limited to individuals who pay child support for children under age 21.

Child Care Expenses

We estimated a logistic regression using 2004 and 2008 SIPP data for the probability that working women with their own children under age 16 paid child care expenses during work hours (table 1.7). Child care expense data for the 2004 SIPP are from topical modules 3 and 6. Child care expense data for the 2008 SIPP are from topical modules 4 and 10. SIPP asks workers with dependent children if they paid child expenses in order to work.

For workers paying child care expenses, SIPP asks the amount the worker paid in a typical week. The child care expenses variable is only asked in selected topical modules, so we only know the typical weekly expenses from the topical module interviews. We estimated an OLS regression for the amount of child care expenses among working women with a dependent child under age 16 who pay child care expenses during working hours (table 1.8). Child

care expenses are higher the more dependent children the mother has. Expenses decline as the age of the youngest child increases. Expenses are higher for working women with more education and with higher earnings as these women are able to afford more expensive care than lower-educated and lower-earning workers.

TABLE 1.7

Logistic Regression Coefficients for the Probability a Female Worker Pays Child Care Expenses

	Parameter Estimate	Standard Error	Wald Chi-Squared	Prob > Chi
Intercept	-9.2118	0.2953	973.418	<.0001
Age	0.2734	0.0159	294.039	<.0001
Age squared	-0.0042	0.0002	355.897	<.0001
High school graduate	0.2736	0.0714	14.674	0.0001
College graduate	0.5206	0.0794	42.938	<.0001
Postcollege graduate	0.5835	0.0877	44.307	<.0001
Number of children under age 18	-0.2798	0.0214	170.492	<.0001
Natural log of earnings/AWI	0.5740	0.0217	701.662	<.0001
Age of youngest child	0.1216	0.0147	68.638	<.0001
Age of youngest child squared	-0.0275	0.0012	495.771	<.0001
Married female dummy	-0.1040	0.0367	8.059	0.0045
	30,707			
Unweighted observations				

Source: Urban Institute estimates from 2004 and 2008 SIPP data.

Note: Estimates are limited to working women with dependent children under age 16 living in the household.

TABLE 1.8

OLS Parameter Estimates for Weekly Child Care Expenses

	Parameter Estimate	Standard Error	t Value	Pr > t
Intercept	-561.472	185.4286	-3.03	0.0025
Age	40.625	10.63043	3.82	0.0001
Age squared	-0.400	0.14755	-2.71	0.0067
High school graduate	103.936	48.69402	2.13	0.0328
College graduate	200.891	52.29592	3.84	0.0001
Post college graduate	492.012	55.47931	8.87	<.0001
Number of children under age 18	47.124	13.46851	3.50	0.0005
Natural log of earnings/AWI	36.288	5.84865	6.20	<.0001
Age of youngest child	-35.969	3.68793	-9.75	<.0001
Married female dummy	154.424	22.81724	6.77	<.0001

Source: Urban Institute estimates from 2004 and 2008 SIPP data.

Note: Estimates are limited to working women who pay child care expenses during work hours with dependent children under age 16 living in the household.

Homeowner with a Mortgage

We estimated a random-effects logistic regression using Panel Study of Income Dynamics (PSID) data from 1968 to 2015 to estimate the probability that homeowners have a mortgage or other home debt. We estimated separate models for married and unmarried individuals ages 25 and older. Table 1.9 shows the regression results for married couples. Table 1.10 shows regression results for unmarried individuals. The homeowner with a mortgage estimation builds off the PSID home purchase, home sale, and home equity models included in MINT7. It shares many of its independent variables with other home-related models. These models include a series of piecewise linear age splines, cohort dummies, measures of recent and lifetime earnings, head and spouse characteristics, and number of children.

TABLE 1.9

Random-Effects Logistic Regression Estimates of the Probability a Homeowner Has a Mortgage for Married Couples

	Coefficient	Standard Error	z	P > z
Own plus spouse present value of lifetime earnings divided by the cohort average	0.25355	0.03667	6.910	0.000
Husband average less-censored earnings divided by the average wage in last 6 years	0.61691	0.04794	12.870	0.000
Wife average less-censored earnings divided by the average wage in last 6 years	0.45709	0.06678	6.840	0.000
Head age 25 spline max(0, age-25)	0.07567	0.02544	2.970	0.003
Head age 30 spline max(0, age-30)	-0.08206	0.04050	-2.030	0.043
Head age 35 spline max(0, age-35)	0.00491	0.03757	0.130	0.896
Head age 40 spline max(0, age-40)	-0.00483	0.03790	-0.130	0.899
Head age 45 spline max(0, age-45)	-0.10742	0.05461	-1.970	0.049
Head age 48 spline max(0, age-48)	0.11096	0.08631	1.290	0.199
Head age 50 spline max(0, age-50)	-0.11575	0.06961	-1.660	0.096
Head age 55 spline max(0, age-55)	0.03142	0.03463	0.910	0.364
Head age 60 spline max(0, age-60)	-0.04241	0.03494	-1.210	0.225
Head age 65 spline max(0, age-65)	0.15655	0.03974	3.940	0.000
Head age 70 spline max(0, age-70)	-0.03048	0.04886	-0.620	0.533
Head age 75 spline max(0, age-75)	-0.17038	0.06524	-2.610	0.009

	Coefficient	Standard Error	z	P > z
Head age 80 spline max(0, age-80)	0.15076	0.08037	1.880	0.061
Born before 1920	-1.28195	0.31876	-4.020	0.000
1920 ≤ birth year ≤ 1924	-0.80111	0.35293	-2.270	0.023
1925 ≤ birth year ≤ 1929	-0.22831	0.33691	-0.680	0.498
1930 ≤ birth year ≤ 1934	-0.01141	0.33755	-0.030	0.973
1935 ≤ birth year ≤ 1939	-0.00681	0.34925	-0.020	0.984
1940 ≤ birth year ≤ 1944	0.57810	0.34460	1.680	0.093
1945 ≤ birth year ≤ 1949	0.56812	0.31198	1.820	0.069
1950 ≤ birth year ≤ 1954	0.25213	0.29835	0.850	0.398
1955 ≤ birth year ≤ 1959	0.00055	0.30114	0.000	0.999
1960 ≤ birth year ≤ 1964	0.07004	0.31673	0.220	0.825
1965 ≤ birth year ≤ 1969	-0.63181	0.32691	-1.930	0.053
1970 ≤ birth year ≤ 1974	0.13175	0.35039	0.380	0.707
1975 ≤ birth year ≤ 1979	0.53198	0.36218	1.470	0.142
1980 ≤ birth year (omitted)		(omitted)		
Head age * black	0.01276	0.00264	4.820	0.000
Head age * college graduate	0.00771	0.00222	3.470	0.001
Head age * self-employed	-0.00173	0.00123	-1.400	0.162
Head age * disabled	0.00154	0.00095	1.630	0.103
Number of years ever married	-0.09702	0.00752	-12.900	0.000
Number of years with earnings above the taxable maximum	-0.06390	0.00957	-6.680	0.000
Wife does not have a high school diploma	-0.15408	0.09254	-1.660	0.096
Couple has 1 to 2 children	0.01912	0.05363	0.360	0.721
Couple has 3 or more children	0.10479	0.08375	1.250	0.211
Intercept	3.36152	0.27267	12.330	0.000
 Insig2u	2.37485	0.03973	0.000	0.000
sigma_u	3.27863	0.06514	0.000	0.000
rho	0.76567	0.00713	0.000	0.000
Unweighted observations	61,786			

Source: Urban Institute estimates from the 1968 to 2015 PSID.

Note: Estimates are limited to married couples who own a home.

TABLE 1.10

Random-Effects Logistic Regression Estimates of the Probability a Homeowner Has a Mortgage for Unmarried Individuals

	Coefficient	Standard Error	z	P > z
Former spouse present value of lifetime earnings divided by the cohort average	-0.57935	0.09045	-6.4100	0.0000
Own plus former spouse present value of lifetime earnings divided by the cohort average	0.57902	0.08990	6.4400	0.0000
Own average less-censored earnings divided by the average wage in last 6 years	0.72356	0.10262	7.0500	0.0000
Widow dummy	-0.64928	0.13365	-4.8600	0.0000
Head age 25 spline max(0, age-25)	-0.02509	0.04895	-0.5100	0.6080
Head age 30 spline max(0, age-30)	0.01037	0.07949	0.1300	0.8960
Head age 35 spline max(0, age-35)	-0.11256	0.07096	-1.5900	0.1130
Head age 40 spline max(0, age-40)	0.02295	0.06751	0.3400	0.7340
Head age 45 spline max(0, age-45)	-0.05077	0.09443	-0.5400	0.5910
Head age 48 spline max(0, age-48)	0.00659	0.14811	0.0400	0.9640
Head age 50 spline max(0, age-50)	0.06595	0.11898	0.5500	0.5790
Head age 55 spline max(0, age-55)	-0.13292	0.05928	-2.2400	0.0250
Head age 60 spline max(0, age-60)	0.13496	0.05596	2.4100	0.0160
Head age 65 spline max(0, age-65)	-0.04994	0.05756	-0.8700	0.3860
Head age 70 spline max(0, age-70)	0.00233	0.06287	0.0400	0.9700
Head age 75 spline max(0, age-75)	0.03236	0.07029	0.4600	0.6450
Head age 80 spline max(0, age-80)	0.07117	0.06326	1.1300	0.2610
Born before 1920	-2.30085	0.42993	-5.3500	0.0000
1920 ≤ birth year ≤ 1924	-1.18320	0.47095	-2.5100	0.0120
1925 ≤ birth year ≤ 1929	-1.02436	0.46320	-2.2100	0.0270
1930 ≤ birth year ≤ 1934	0.06879	0.46224	0.1500	0.8820
1935 ≤ birth year ≤ 1939	0.61162	0.47676	1.2800	0.2000
1940 ≤ birth year ≤ 1944	0.09473	0.45789	0.2100	0.8360
1945 ≤ birth year ≤ 1949	1.17422	0.44293	2.6500	0.0080
1950 ≤ birth year ≤ 1954	0.59544	0.41725	1.4300	0.1540
1955 ≤ birth year ≤ 1959	0.18636	0.40868	0.4600	0.6480
1960 ≤ birth year ≤ 1964	-0.45086	0.41687	-1.0800	0.2790
1965 ≤ birth year ≤ 1969	-0.21013	0.42879	-0.4900	0.6240
1970 ≤ birth year ≤ 1974	0.27110	0.45729	0.5900	0.5530
1975 ≤ birth year ≤ 1979	0.27631	0.46123	0.6000	0.5490
1980 ≤ birth year (omitted)		(omitted)		

	Coefficient	Standard Error	z	P > z
Head age * black	0.01233	0.00287	4.3000	0.0000
Head age * Hispanic	0.00009	0.00751	0.0100	0.9900
Head age * college graduate	0.01361	0.00320	4.2600	0.0000
Head age * never married	-0.01859	0.00445	-4.1800	0.0000
Number of years with earnings above the taxable maximum	-0.03401	0.02265	-1.5000	0.1330
Intercept	2.59021	0.36540	7.0900	0.0000
 Insig2u	2.74256			
sigma_u	3.94038			
rho	0.82516			
Unweighted observations	25,414			

Source: Urban Institute estimates from the 1968 to 2015 PSID.

Notes: Estimates are limited to unmarried individuals who own a home.

As implemented in MINT, we assigned an individual-specific error term based on the distribution estimated in the PSID data. MINT8 projects homeownership status annually for each year of the simulation. For all homeowners, we projected whether the family has a home mortgage by using the estimated have mortgage models including the individual-specific error term. Homeowners can pay off mortgages and subsequently remortgage (take a home equity loan or change homes) homes in subsequent years.

Supplemental poverty rates use separate poverty thresholds for renters, homeowners with a mortgage, and homeowners without a mortgage. MINT7, which did not include homeowner with and without a mortgage, used the supplemental poverty threshold for renters and included imputed rental income in family income. MINT8 now excludes imputed rental income in family income and uses the appropriate supplemental poverty threshold based on individuals' homeownership and mortgage status.

Chapter 2. Updated Health and Retirement Study Estimates

This chapter describes the set of updated retirement models estimated on HRS data through wave 13 (1992-2016 data). Parameter estimates are given below for married women (table 2.1), married men (table 2.2), unmarried women (table 2.3), and unmarried men (table 2.4).

The explanatory variables include a series of age dummies coded relative to the Social Security FRA:

- “New age 64” is coded as age in months between 768 months ($64 * 12$) and the FRA months minus 1.
- “New age 65” is coded as age in months between the FRA months and FRA months + 11.
- “New age 66” is coded as age in months between FRA + 12 and FRA + 23.
- “New age 67” is coded as age in months between FRA + 24 and FRA + 35.
- “New age 68” is coded as age in months between FRA + 36 and FRA + 47.

The age definitions listed above are the same definitions we used in the Social Security claiming model. This age specification continues the age 64 hazard rate up to FRA and captures the claiming incentives as FRA increases for cohorts born after 1937 whose FRAs increase from age 65 to age 67. We calculated the age in months in December of each calendar year. Using the same age specification in the retirement and Social Security claiming model helps coordinate the timing of projected retirement and Social Security claiming.

TABLE 2.1

Probit Regression Coefficients for the Probability of Retirement for Married Women

	Parameter Estimate	Standard Error	95% Confidence Limits		Chi-Square	Pr > ChiSq
Intercept	-0.2560	0.3240	-0.8911	0.3790	0.62	0.4294
Log recent earnings	-0.1550	0.0317	-0.2173	-0.0928	23.85	<.0001
Per capita family wealth/AWI	0.0031	0.0003	0.0026	0.0037	118.07	<.0001
Replacement rate	0.9955	0.1041	0.7915	1.1995	91.50	<.0001
Replacement rate squared	-0.1283	0.0192	-0.1660	-0.0906	44.44	<.0001
Age difference to spouse	-0.0050	0.0059	-0.0166	0.0066	0.72	0.3961
Black	0.6031	0.1908	0.2291	0.9771	9.99	0.0016
Hispanic	-0.2306	0.1293	-0.4839	0.0227	3.18	0.0744
Less than high school	0.5784	0.0576	0.4655	0.6913	100.83	<.0001
Some college	-0.5438	0.0489	-0.6397	-0.4479	123.53	<.0001
College	-0.1859	0.0562	-0.2960	-0.0757	10.94	0.0009
More than college	0.0073	0.0679	-0.1257	0.1404	0.01	0.9140

	Parameter Estimate	Standard Error	95% Confidence Limits		Chi- Square	Pr > ChiSq
Born 1938–1942	0.3180	0.0472	0.2254	0.4106	45.31	<.0001
Born 1943–1954	-0.0847	0.0567	-0.1958	0.0264	2.23	0.1351
Born 1955 or later	-0.3414	0.2156	-0.7640	0.0811	2.51	0.1133
DB plan	0.0443	0.0423	-0.0386	0.1271	1.10	0.2948
DC plan	-0.2831	0.0438	-0.3690	-0.1973	41.77	<.0001
CB plan	-0.2554	0.1212	-0.4930	-0.0178	4.44	0.0351
Fair/poor health	0.1491	0.0683	0.0153	0.2829	4.77	0.0290
Disability	0.1661	0.0718	0.0254	0.3068	5.35	0.0207
Self-employed	-0.3615	0.0759	-0.5103	-0.2127	22.66	<.0001
Foreign born	-0.1520	0.0673	-0.2840	-0.0201	5.10	0.0239
Homeowner	-0.3233	0.0754	-0.4711	-0.1755	18.37	<.0001
Log spouse earnings	-0.0040	0.0058	-0.0153	0.0074	0.47	0.4936
Present value of spouse lifetime earnings divided by the cohort average	0.4474	0.0372	0.3744	0.5204	144.28	<.0001
Spouse black	-0.7445	0.1899	-1.1167	-0.3723	15.37	<.0001
Spouse Hispanic	0.9820	0.0997	0.7865	1.1774	96.94	<.0001
Spouse age 45–46	-1.4624	0.3306	-2.1105	-0.8144	19.56	<.0001
Spouse age 47–48	-0.9827	0.2333	-1.4400	-0.5254	17.74	<.0001
Spouse age 49–50	-1.4360	0.1650	-1.7593	-1.1126	75.75	<.0001
Spouse age 51–52	-0.3098	0.1040	-0.5136	-0.1061	8.88	0.0029
Spouse age 53–54	-0.5191	0.0882	-0.6919	-0.3463	34.67	<.0001
Spouse age 55–56	-0.9916	0.0859	-1.1601	-0.8232	133.14	<.0001
Spouse age 57–58	-0.3801	0.0789	-0.5347	-0.2255	23.22	<.0001
Spouse age 59–60	-0.7985	0.0780	-0.9514	-0.6455	104.70	<.0001
Spouse age 61–62	-0.8489	0.0895	-1.0244	-0.6735	89.92	<.0001
Spouse age 63–64	-0.8160	0.0961	-1.0044	-0.6276	72.09	<.0001
Spouse age 65–66	-0.0547	0.0957	-0.2423	0.1329	0.33	0.5675
Spouse age 67 or higher	-0.6533	0.1170	-0.8827	-0.4240	31.17	<.0001
Spouse DB plan	-0.2940	0.0488	-0.3897	-0.1984	36.30	<.0001
Spouse DC plan	0.0219	0.0468	-0.0699	0.1137	0.22	0.6398
Spouse CB plan	0.4149	0.1000	0.2188	0.6109	17.20	<.0001
Spouse self-employed	-0.0233	0.0508	-0.1229	0.0764	0.21	0.6471
Age 52	0.8519	0.0908	0.6740	1.0297	88.11	<.0001
Age 53	0.9225	0.0895	0.7471	1.0980	106.24	<.0001
Age 54	1.4539	0.0917	1.2741	1.6337	251.18	<.0001
Age 55	1.0030	0.0998	0.8073	1.1986	100.94	<.0001

	Parameter Estimate	Standard Error	95% Confidence Limits		Chi-Square	Pr > ChiSq
Age 56	1.2478	0.1031	1.0458	1.4498	146.60	<.0001
Age 57	0.6824	0.1138	0.4593	0.9054	35.96	<.0001
Age 58	1.2602	0.1179	1.0292	1.4912	114.32	<.0001
Age 59	1.3053	0.1108	1.0882	1.5224	138.83	<.0001
Age 60	1.9129	0.1346	1.6492	2.1766	202.10	<.0001
Age 61	1.3131	0.1347	1.0492	1.5771	95.07	<.0001
Age 62	1.1873	0.1755	0.8434	1.5312	45.78	<.0001
Age 63	1.3584	0.1788	1.0079	1.7088	57.71	<.0001
New age 64	1.2100	0.2059	0.8064	1.6136	34.53	<.0001
New age 65	1.0648	0.2555	0.5640	1.5656	17.37	<.0001
New age 66	1.5278	0.3153	0.9097	2.1458	23.47	<.0001
New age 67	0.9944	0.3801	0.2494	1.7393	6.84	0.0089
New age 68+	0.5190	0.3209	-0.1100	1.1479	2.62	0.1059

Source: Urban Institute estimates from the 1992-2016 HRS.

Notes: Sample includes married women. Per capita family wealth includes financial assets and retirement accounts. Couple amounts are divided by the square root of 2. Replacement rate is the expected Social Security and DB pension income if the individual retires divided by current earnings if the individual works. AWI is the average wage. Recent earnings is the weighted average of wage-adjusted earnings in the past five years.

TABLE 2.2

Probit Regression Coefficients for the Probability of Retirement for Married Men

	Parameter Estimate	Standard Error	95% Confidence Limits		Chi-Square	Pr > ChiSq
Intercept	-4.2233	0.4406	-5.0868	-3.3598	91.89	<.0001
Log recent earnings	0.2570	0.0410	0.1767	0.3373	39.32	<.0001
Per capita family wealth/AWI	0.0001	0.0005	-0.0008	0.0010	0.06	0.8092
Replacement rate	0.1979	0.0510	0.0980	0.2979	15.07	0.0001
Replacement rate squared	-0.0049	0.0049	-0.0145	0.0048	0.97	0.3237
Age difference to spouse	-0.0563	0.0087	-0.0732	-0.0393	42.27	<.0001
Black	-0.3906	0.2539	-0.8882	0.1070	2.37	0.1239
Hispanic	-0.0838	0.1638	-0.4050	0.2373	0.26	0.6088
Less than high school	0.4884	0.0657	0.3596	0.6172	55.22	<.0001
Some college	0.2602	0.0522	0.1578	0.3626	24.81	<.0001
College	-0.1151	0.0627	-0.2379	0.0078	3.37	0.0664
More than college	-0.4162	0.0743	-0.5618	-0.2705	31.37	<.0001
Born 1938–1942	-0.0770	0.0510	-0.1769	0.0230	2.28	0.1314
Born 1943–1954	-0.2209	0.0645	-0.3474	-0.0944	11.72	0.0006

	Parameter Estimate	Standard Error	95% Confidence Limits		Chi- Square	Pr > ChiSq
Born 1955 or later	0.2903	0.1642	-0.0315	0.6120	3.13	0.0770
DB plan	0.0795	0.0455	-0.0096	0.1686	3.06	0.0803
DC plan	-0.2354	0.0445	-0.3227	-0.1482	27.96	<.0001
CB plan	-0.3289	0.0967	-0.5184	-0.1394	11.57	0.0007
Fair/poor health	0.4073	0.0660	0.2779	0.5367	38.06	<.0001
Disability	-0.4141	0.0773	-0.5656	-0.2625	28.69	<.0001
Self-employed	-0.5751	0.0677	-0.7078	-0.4425	72.23	<.0001
Foreign born	-0.2854	0.0928	-0.4673	-0.1035	9.46	0.0021
Homeowner	0.0183	0.0755	-0.1297	0.1664	0.06	0.8081
Log spouse earnings	-0.0467	0.0063	-0.0590	-0.0343	54.91	<.0001
Present value of spouse lifetime earnings divided by the cohort average	0.0623	0.0434	-0.0226	0.1473	2.07	0.1505
Spouse black	0.4706	0.2562	-0.0315	0.9726	3.37	0.0662
Spouse Hispanic	0.0749	0.1528	-0.2245	0.3743	0.24	0.6238
Spouse age 45–46	-0.8194	0.1347	-1.0835	-0.5553	36.98	<.0001
Spouse age 47–48	-0.4619	0.1142	-0.6857	-0.2380	16.36	<.0001
Spouse age 49–50	-0.0602	0.1157	-0.2869	0.1664	0.27	0.6024
Spouse age 51–52	-0.3309	0.1286	-0.5829	-0.0788	6.62	0.0101
Spouse age 53–54	0.1416	0.1375	-0.1279	0.4111	1.06	0.3030
Spouse age 55–56	0.0614	0.1526	-0.2376	0.3605	0.16	0.6872
Spouse age 57–58	0.3908	0.1685	0.0606	0.7210	5.38	0.0204
Spouse age 59–60	0.2124	0.1845	-0.1492	0.5741	1.33	0.2497
Spouse age 61–62	0.4667	0.2079	0.0592	0.8741	5.04	0.0248
Spouse age 63–64	0.7066	0.2253	0.2649	1.1482	9.83	0.0017
Spouse age 65–66	1.0991	0.2767	0.5567	1.6415	15.78	<.0001
Spouse age 67 or higher	0.9955	0.2965	0.4144	1.5765	11.28	0.0008
Spouse DB plan	0.4572	0.0503	0.3587	0.5558	82.71	<.0001
Spouse DC plan	0.3946	0.0500	0.2966	0.4925	62.29	<.0001
Spouse CB plan	-1.1599	0.1812	-1.5150	-0.8047	40.97	<.0001
Spouse self-employed	0.5837	0.0639	0.4585	0.7088	83.55	<.0001
Age 52	-0.3706	0.1225	-0.6107	-0.1304	9.14	0.0025
Age 53	-0.2523	0.0945	-0.4375	-0.0671	7.13	0.0076
Age 54	0.1322	0.0925	-0.0491	0.3136	2.04	0.1530
Age 55	-0.3240	0.1054	-0.5304	-0.1175	9.46	0.0021
Age 56	0.5262	0.0992	0.3319	0.7206	28.16	<.0001
Age 57	0.0793	0.1194	-0.1547	0.3132	0.44	0.5067

	Parameter Estimate	Standard Error	95% Confidence Limits		Chi-Square	Pr > ChiSq
Age 58	0.0753	0.1203	-0.1605	0.3112	0.39	0.5312
Age 59	0.1679	0.1277	-0.0824	0.4182	1.73	0.1885
Age 60	0.6075	0.1277	0.3572	0.8579	22.62	<.0001
Age 61	0.5601	0.1346	0.2964	0.8238	17.33	<.0001
Age 62	0.8145	0.1470	0.5264	1.1027	30.69	<.0001
Age 63	0.5809	0.1660	0.2556	0.9063	12.25	0.0005
New age 64	0.3635	0.1703	0.0297	0.6974	4.55	0.0328
New age 65	0.2733	0.2033	-0.1253	0.6718	1.81	0.1790
New age 66	0.2807	0.2372	-0.1843	0.7457	1.40	0.2367
New age 67	0.2960	0.2326	-0.1600	0.7519	1.62	0.2033
New age 68+	-0.0142	0.2505	-0.5051	0.4768	0.00	0.9549

Source: Urban Institute estimates from the 1992-2016 HRS.

Notes: Sample includes married men. Per capita family wealth includes financial assets and retirement accounts. Couple amounts are divided by the square root of 2. Replacement rate is the expected Social Security and DB pension income if the individual retires divided by current earnings if the individual works. AWI is the average wage. Recent earnings is the weighted average of wage-adjusted earnings in the past five years.

TABLE 2.3

Probit Regression Coefficients for the Probability of Retirement for Unmarried Women

	Parameter Estimate	Standard Error	95% Confidence Limits		Chi-Square	Pr > ChiSq
Intercept	-1.5934	0.4699	-2.5144	-0.6725	11.50	0.0007
Log recent earnings	0.0500	0.0466	-0.0413	0.1412	1.15	0.2831
Per capita family wealth/AWI	-0.0003	0.0004	-0.0011	0.0005	0.66	0.4149
Replacement rate	0.2357	0.1232	-0.0058	0.4772	3.66	0.0557
Replacement rate squared	-0.0437	0.0280	-0.0985	0.0111	2.44	0.1180
Widowed	-0.1109	0.0583	-0.2252	0.0035	3.61	0.0574
Never married	-0.3966	0.0921	-0.5772	-0.2160	18.53	<.0001
Black	0.2435	0.0558	0.1343	0.3528	19.08	<.0001
Hispanic	-0.0659	0.1101	-0.2818	0.1499	0.36	0.5495
Less than high school	-0.0587	0.0787	-0.2130	0.0956	0.56	0.4560
Some college	0.0999	0.0603	-0.0182	0.2180	2.75	0.0974
College	-0.2055	0.0691	-0.3410	-0.0701	8.85	0.0029
DB plan	0.0934	0.0565	-0.0173	0.2040	2.73	0.0983
DC plan	-0.0499	0.0539	-0.1555	0.0557	0.86	0.3543
CB plan	-0.0704	0.1475	-0.3595	0.2186	0.23	0.6329
Fair/poor health	0.5502	0.0608	0.4310	0.6694	81.82	<.0001

	Parameter Estimate	Standard Error	95% Confidence Limits		Chi- Square	Pr > ChiSq
Disability	0.3300	0.0799	0.1734	0.4867	17.06	<.0001
Self-employed	-0.0629	0.1092	-0.2770	0.1512	0.33	0.5649
Foreign born	0.1408	0.1044	-0.0638	0.3455	1.82	0.1775
Homeowner	0.2561	0.0545	0.1493	0.3629	22.09	<.0001
Born 1938–1942	0.0312	0.0683	-0.1028	0.1651	0.21	0.6482
Born 1943–1954	-0.1904	0.0703	-0.3282	-0.0526	7.33	0.0068
Born 1955 or later	-0.2103	0.1217	-0.4488	0.0282	2.99	0.0839
One child	0.2153	0.0983	0.0227	0.4080	4.80	0.0285
Two or more children	-0.2693	0.0891	-0.4439	-0.0947	9.14	0.0025
Age 52	-0.1358	0.1318	-0.3941	0.1226	1.06	0.3032
Age 53	-0.1930	0.1222	-0.4324	0.0465	2.50	0.1142
Age 54	-0.5785	0.1164	-0.8067	-0.3502	24.68	<.0001
Age 55	-0.1791	0.1144	-0.4033	0.0451	2.45	0.1175
Age 56	-0.5340	0.1302	-0.7892	-0.2788	16.82	<.0001
Age 57	-0.2180	0.1188	-0.4508	0.0149	3.37	0.0666
Age 58	-0.0527	0.1172	-0.2823	0.1770	0.20	0.6531
Age 59	0.1384	0.1157	-0.0883	0.3652	1.43	0.2315
Age 60	0.0610	0.1286	-0.1911	0.3131	0.22	0.6355
Age 61	0.3312	0.1259	0.0845	0.5779	6.92	0.0085
Age 62	0.1160	0.1453	-0.1687	0.4007	0.64	0.4246
Age 63	0.4409	0.1487	0.1495	0.7323	8.79	0.0030
New age 64	0.3801	0.1450	0.0960	0.6642	6.87	0.0087
New age 65	0.5959	0.1777	0.2475	0.9443	11.24	0.0008
New age 66	0.1545	0.2170	-0.2709	0.5798	0.51	0.4766
New age 67	0.2919	0.2161	-0.1317	0.7154	1.82	0.1768
New age 68+	0.1596	0.1928	-0.2183	0.5374	0.68	0.4079

Source: Urban Institute estimates from the 1992–2016 HRS.

Notes: Sample includes unmarried women. Per capita family wealth includes financial assets and retirement accounts. Couple amounts are divided by the square root of 2. Replacement rate is the expected Social Security and DB pension income if the individual retires divided by current earnings if the individual works. AWI is the average wage. Recent earnings is the weighted average of wage-adjusted earnings in the past five years.

TABLE 2.4

Probit Regression Coefficients for the Probability of Retirement for Unmarried Men

	Parameter Estimate	Standard Error	95% Confidence Limits		Chi- Square	Pr > ChiSq
Intercept	-1.2856	0.6308	-2.5220	-0.0493	4.15	0.0415
Log recent earnings	-0.1116	0.0605	-0.2302	0.0071	3.40	0.0653
Per capita family wealth/AWI	0.0002	0.0003	-0.0004	0.0008	0.51	0.4751
Replacement rate	0.3602	0.1315	0.1025	0.6180	7.50	0.0062
Replacement rate squared	-0.0350	0.0184	-0.0711	0.0011	3.61	0.0575
Widowed	0.1429	0.1183	-0.0889	0.3747	1.46	0.2268
Never married	0.1778	0.1256	-0.0684	0.4239	2.00	0.1570
Black	0.1568	0.1055	-0.0499	0.3635	2.21	0.1371
Hispanic	0.1847	0.1363	-0.0824	0.4518	1.84	0.1753
Less than high school	-0.1107	0.1119	-0.3301	0.1087	0.98	0.3229
Some college	-0.0852	0.0935	-0.2685	0.0981	0.83	0.3621
College	0.0673	0.0928	-0.1147	0.2492	0.53	0.4686
DB plan	0.3540	0.0785	0.2001	0.5079	20.31	<.0001
DC plan	0.2926	0.0747	0.1461	0.4391	15.33	<.0001
CB plan	-0.1815	0.1895	-0.5529	0.1899	0.92	0.3382
Fair/poor health	0.1089	0.1034	-0.0938	0.3116	1.11	0.2922
Disability	0.2746	0.1163	0.0466	0.5026	5.57	0.0182
Self-employed	-0.2094	0.1145	-0.4339	0.0150	3.35	0.0674
Foreign born	-0.2688	0.1450	-0.5531	0.0154	3.44	0.0638
Homeowner	0.1461	0.0759	-0.0027	0.2949	3.70	0.0544
Born 1938–1942	-0.0077	0.1030	-0.2095	0.1942	0.01	0.9406
Born 1943–1954	0.0839	0.1002	-0.1125	0.2803	0.70	0.4025
Born 1955 or later	0.1396	0.1742	-0.2020	0.4811	0.64	0.4232
One child	-0.2579	0.1535	-0.5588	0.0430	2.82	0.0930
Two or more children	-0.1164	0.1217	-0.3548	0.1220	0.92	0.3387
Age 52	0.7386	0.2109	0.3253	1.1519	12.27	0.0005
Age 53	0.2053	0.1950	-0.1768	0.5875	1.11	0.2923
Age 54	0.1283	0.1948	-0.2536	0.5101	0.43	0.5103
Age 55	1.4001	0.1828	1.0419	1.7583	58.69	<.0001
Age 56	0.7512	0.2008	0.3576	1.1448	13.99	0.0002
Age 57	0.9424	0.2069	0.5369	1.3480	20.74	<.0001
Age 58	0.8489	0.2119	0.4336	1.2641	16.05	<.0001
Age 59	1.3067	0.1990	0.9166	1.6967	43.12	<.0001
Age 60	1.5091	0.2081	1.1012	1.9170	52.59	<.0001

	Parameter Estimate	Standard Error	95% Confidence Limits		Chi- Square	Pr > ChiSq
Age 61	1.4547	0.2197	1.0241	1.8854	43.84	<.0001
Age 62	1.2774	0.2343	0.8183	1.7366	29.73	<.0001
Age 63	1.3544	0.2577	0.8494	1.8594	27.63	<.0001
New age 64	1.5038	0.2319	1.0492	1.9584	42.04	<.0001
New age 65	1.5664	0.2773	1.0230	2.1099	31.92	<.0001
New age 66	1.1592	0.3604	0.4528	1.8657	10.34	0.0013
New age 67	1.6669	0.3401	1.0003	2.3334	24.02	<.0001
New age 68+	1.2732	0.2974	0.6904	1.8560	18.33	<.0001

Source: Urban Institute estimates from the 1992-2016 HRS.

Notes: Sample includes unmarried men. Per capita family wealth includes financial assets and retirement accounts. Couple amounts are divided by the square root of 2. Replacement rate is the expected Social Security and DB pension income if the individual retires divided by current earnings if the individual works. AWI is the average wage. Recent earnings is the weighted average of wage-adjusted earnings in the past five years.

Chapter 3. 2014 Redesigned SIPP and SSA Supplement

This chapter describes the methods we used to generate the MINT2014 model. MINT2014 is identical to MINT8, except that MINT2014 starts with the 2014 SIPP data, and MINT8 starts with pooled 2004 and 2008 SIPP data.

The Census Bureau substantially changed the method it used to collect SIPP data for the 2014 panel (National Academies of Sciences, Engineering, and Medicine 2017). Unlike earlier panels that interviewed households every four months to collect data from the prior four months, the 2014 SIPP is conducted annually to collect monthly data for the prior calendar year. In prior SIPP panels, the Census Bureau included topical modules along with the core questions with each interview. The 2014 SIPP expanded the set of core questions compared with earlier panels and dispensed with the topical modules. The 2014 core data did not include information formerly asked in the marriage history, retirement plan and pension coverage, work disability, and adult and child disability topical modules.

At the SSA's request, the Census Bureau conducted a follow-up telephone interview among the 2014 SIPP wave 1 respondents to collect these data. One of the main concerns with using the 2014 SIPP data for MINT is that the response rate for the SSA supplement was only 57 percent. Because the marriage history and pension topical module data are particularly important for MINT processing, we imputed starting values for variables collected from these modules to 2014 SIPP respondents who did not answer the SSA supplement.

Impute Retirement Plan and Pension Coverage

Of the 72,191 individuals on the 2014 SIPP, 30,718 individuals ages 15 and older do not have a match on the 2014 SIPP SSA supplement, which includes important data on pension coverage. We used a weighted distance function described in Smith, Scheuren, and Berk (2002) to select a retirement plan and pension coverage donor record selected from the 2008 SIPP panel to impute starting values to SSA supplement nonrespondents. The weighted distance function is defined as follows:

$$D_d = \sum_{j=1}^n w_j * \left(\frac{x_{dj} - x_{rj}}{\sigma_j} \right)^2$$

where j is the number of measured attributes in the distance function, w is a weight factor, X is a characteristic measure, σ is the standard deviation of the j th X variable in the dataset (noncategorical variables), d denotes the characteristic of the donor, and r denotes the characteristic of the recipient.

The weight factor, w_j , allows the analyst to decide which attributes are more important to match. We calculated the distance, D , for each donor record, and selected the donor record with the smallest value. Table 3.1 lists the variables, distance function weights, and standard deviations used in the distance function.

TABLE 3.1
Pension Imputation Distance Function Variables

Variable	Weight	Standard Deviation
Class of worker	4,000	1.00000
Industry type	4,000	1.00000
Work dummy	1,000	1.00000
Age	50	19.12118
Total annual earnings	50	0.88074
Education level	10	1.00000
Union coverage	10	1.00000
Total wage and salary earnings	5	0.81235
Total self-employment earnings	5	0.37239
Sex	5	1.00000
Marital status	4	1.00000
Race ethnicity	4	1.00000
Weekly hours worked	1	2.09493
401k balance	1	1.40290
IRA Keogh balance	1	1.40645

Source: Urban Institute calculations.

Detailed distributional results for the distance function match are available in an HTML file located [here](#).

Impute Marriage History

Only 54 percent of 2014 SIPP ever-married adults match the SSA supplement file. We imputed marriage histories for ever-married individuals without a match (table 3.2). The imputation uses a hot-deck algorithm to select a donor record from 2014 SIPP observations with an SSA match with the same sex, marital status, first marriage start year, number of marriages, race/ethnicity (non-Hispanic white, non-Hispanic black, Hispanic, other race), age (plus or minus 3 years of age), age difference (own age minus spouse age for married respondents), and education (less than high school, high school graduate, some college, college graduate). We removed selected variables from the match list until every target observation had an appropriate donor observation. Eighty-five percent of imputed observations match on all target variables. An additional 7.3 percent match a donor record without the race variable, and an additional 3.6 percent match without the education variable.

TABLE 3.2

Number and Percentage of Respondents Ever Married by Imputation Status and Selected Characteristics

	All	Not Imputed	Imputed	All	Not Imputed	Imputed	All	Not Imputed	Imputed
	Weighted Sum (thousands)			Row (%)			Column (%)		
All	173,400	94,100	79,320	100	54	46	100	100	100
Sex									
Male	80,370	43,750	36,620	100	54	46	46	47	46
Female	93,050	50,350	42,700	100	54	46	54	54	54
Birth year									
1920–1929	6,114	3,626	2,488	100	59	41	4	4	3
1930–1939	13,490	9,154	4,334	100	68	32	8	10	6
1940–1949	25,710	16,780	8,937	100	65	35	15	18	11
1950–1959	36,910	22,280	14,640	100	60	40	21	24	19
1960–1969	36,630	17,830	18,800	100	49	51	21	19	24
1970–1979	31,280	13,940	17,350	100	45	56	18	15	22
1980–1989	21,090	9,637	11,450	100	46	54	12	10	14
1990–1999	2,188	865	1,324	100	40	61	1	1	2
Education									
Less than high school	20,490	10,500	9,990	100	51	49	12	11	13
High school	50,500	26,400	24,110	100	52	48	29	28	30
Some college	46,840	24,640	22,200	100	53	47	27	26	28

	All	Not Imputed	Imputed	All	Not Imputed	Imputed	All	Not Imputed	Imputed
	Weighted Sum (thousands)			Row (%)			Column (%)		
College graduate	55,580	32,560	23,020	100	59	41	32	35	29
Race/ethnicity									
Non-Hispanic white	120,600	68,460	52,120	100	57	43	70	73	66
Non-Hispanic black	16,050	7,799	8,252	100	49	51	9	8	10
Hispanic	23,730	11,110	12,620	100	47	53	14	12	16
Other race	13,040	6,723	6,321	100	52	49	8	7	8
Marital status									
Married	123,000	66,820	56,170	100	54	46	71	71	71
Absent	3,269	1,286	1,982	100	39	61	2	1	3
Widowed	14,160	8,708	5,449	100	62	39	8	9	7
Divorced	27,890	14,870	13,020	100	53	47	16	16	16
Separated	5,115	2,423	2,692	100	47	53	3	3	3

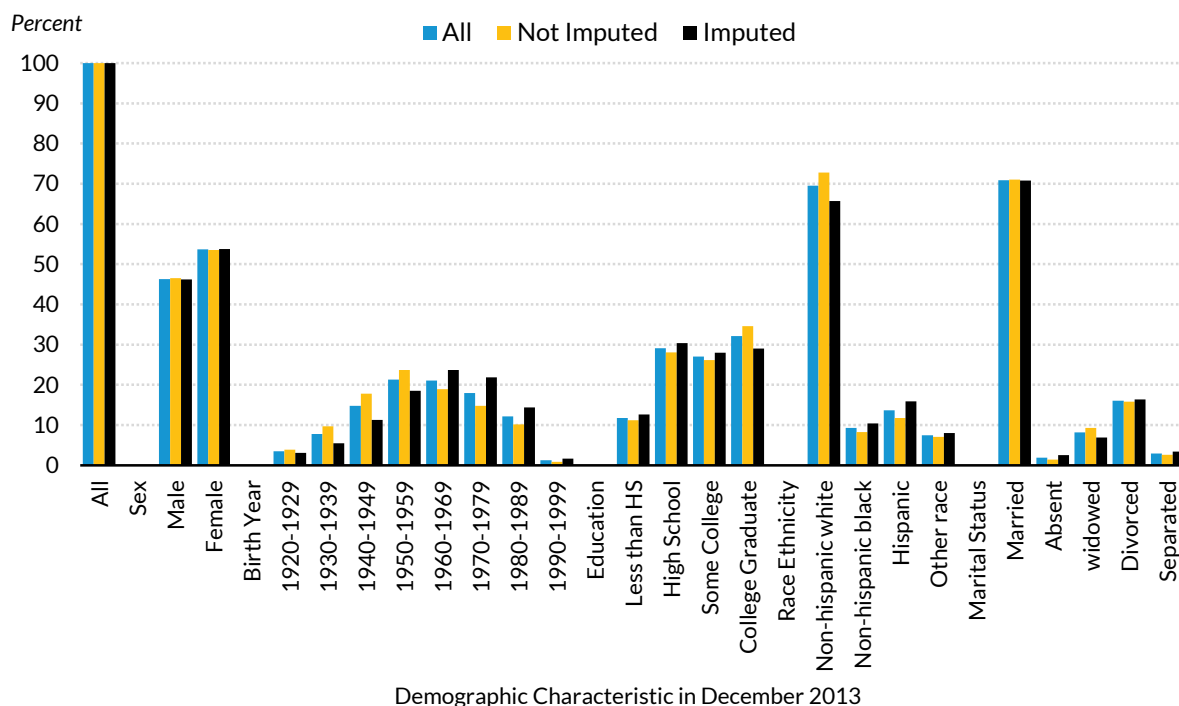
Source: Urban Institute tabulations from the 2014 SIPP data linked to the SSA supplement file.

Note: Table includes all ever-married adults in month 12 of the 2014 SIPP (December 2013).

Figure 3.1 shows the percentage of ever-married respondents on the 2014 SIPP as of December 2013 by selected demographic characteristic and imputation status. Compared with nonimputed respondents, imputed respondents are more likely to be from a later cohort, be lower educated, be a person of color, and be divorced.

FIGURE 3.1

Distribution of Demographic Characteristics among Ever-Married Individuals by Imputation Status

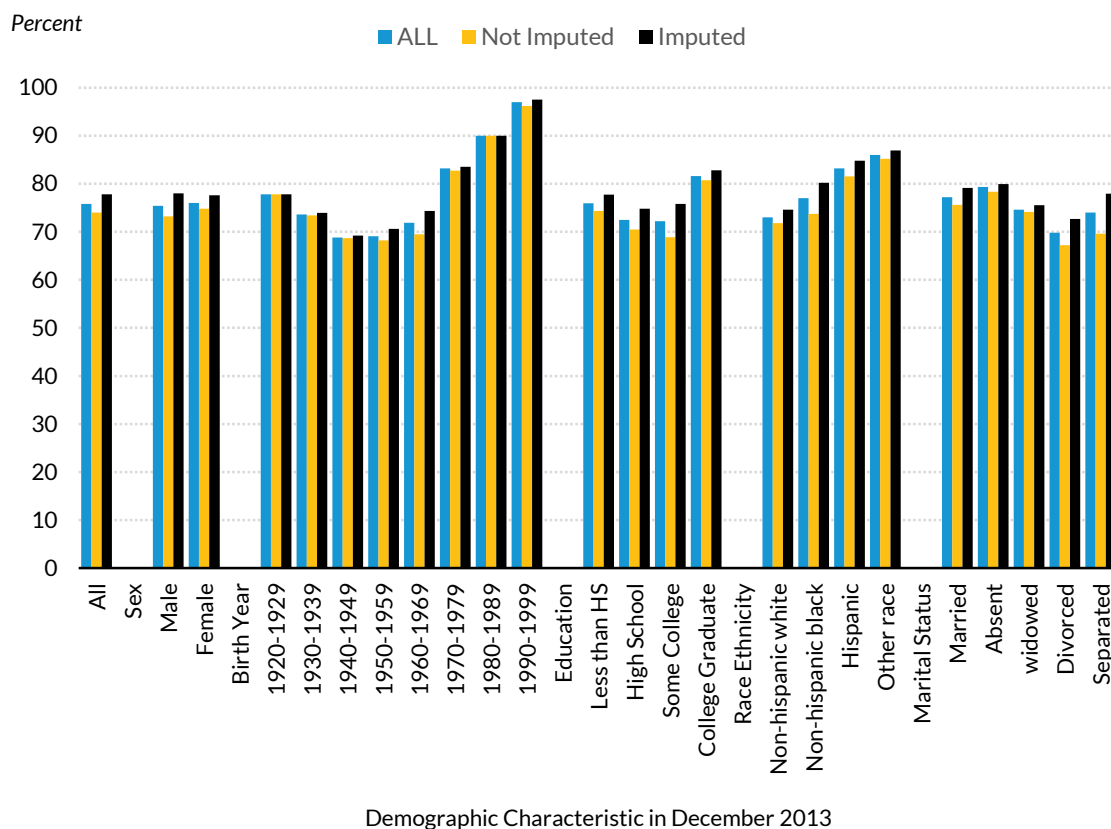


Source: Urban Institute tabulations from the 2014 SIPP data linked to the SSA supplement.

Figure 3.2 shows the share of ever-married respondents with only one marriage by selected characteristics and imputation status. The imputed share of respondents with one marriage is slightly higher than the nonimputed share in all subgroups, but the levels in each subgroup are similar. The higher single marriage rate partly reflects the relative lower ages of the imputed cases.

FIGURE 3.2

Share of Ever-Married Population with One Marriage by Selected Characteristics and Imputation Status

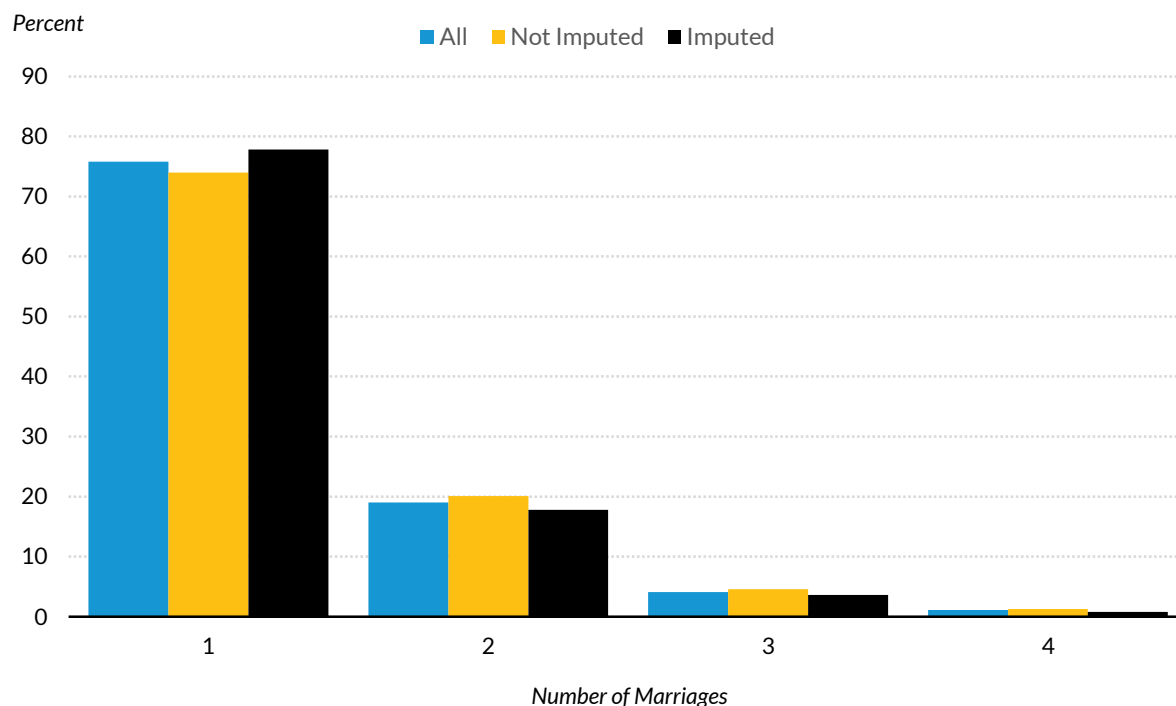


Source: Urban Institute tabulations from the 2014 SIPP data linked to the SSA supplement.

Figure 3.3 shows the distribution of the number of marriages among ever-married respondents by imputation status. Again, the imputed cases are more likely to have only one marriage compared with the nonimputed cases, but the differences are small.

FIGURE 3.3

Distribution of Number of Marriages among Ever-Married Individuals by Imputation Status

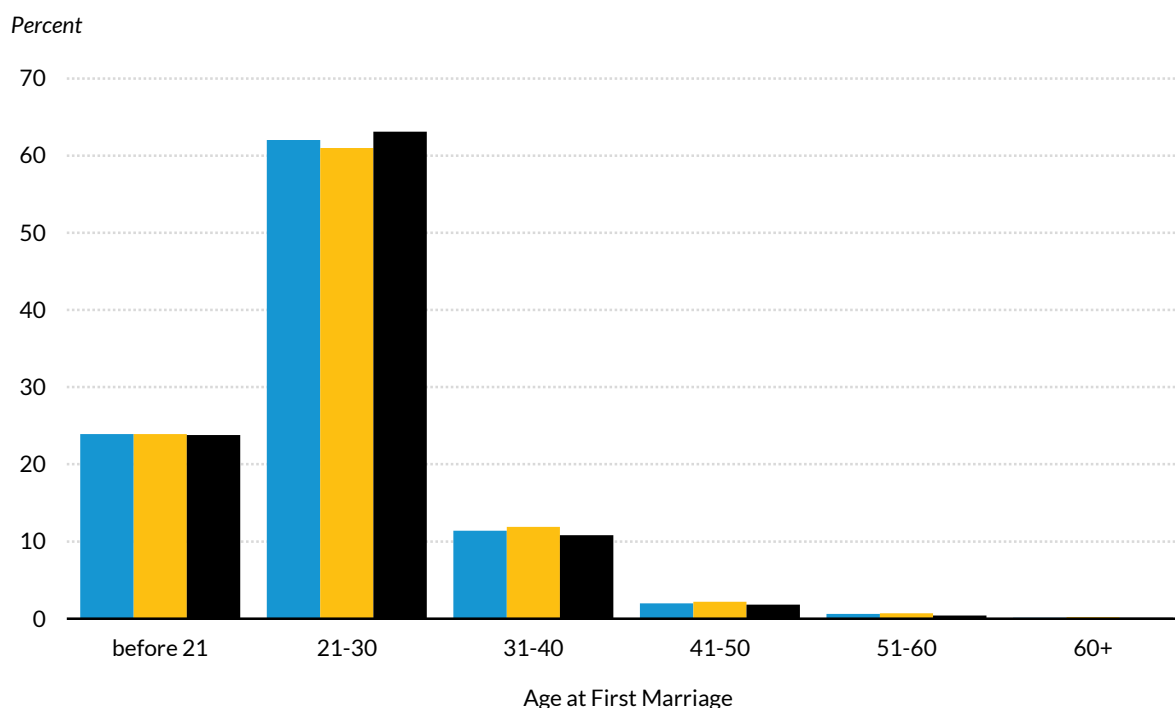


Source: Urban Institute tabulations from the 2014 SIPP data linked to the SSA supplement.

Figure 3.4 compares the distribution of age at first marriage among ever-married individuals by imputation status. The age at first marriage for imputed and nonimputed observations are very similar. Figure 3.5 shows the percentage of first marriages that occurred before age 20 by selected characteristics and imputation status. Imputed cases are more likely to marry before age 20 than nonimputed respondents in virtually all subgroups. Younger marriage rates for imputed cases partly reflect the younger ages of nonmatched cases and partly reflect the higher share of terminated marriages for imputed cases.

FIGURE 3.4

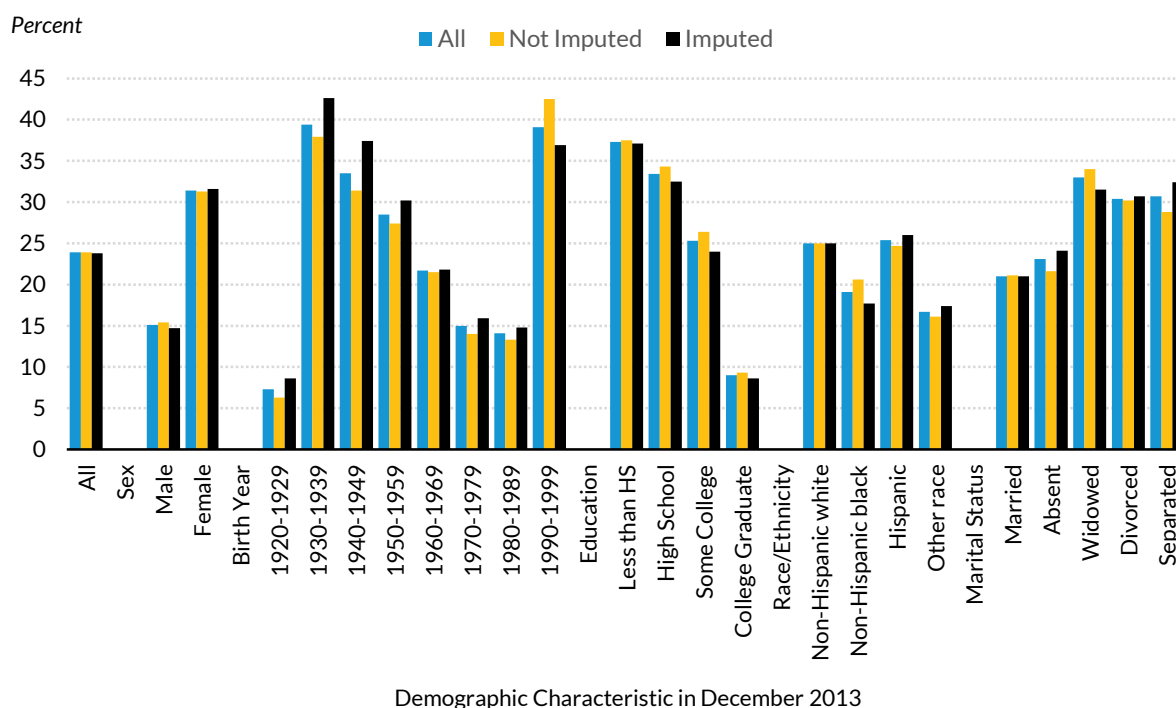
Distribution of Age at First Marriage among Ever-Married Individuals by Imputation Status



Source: Urban Institute tabulations from the 2014 SIPP data linked to the SSA supplement.

FIGURE 3.5

Percentage with First Marriage before Age 20 among Individuals Ever Married by Characteristic and Imputation Status

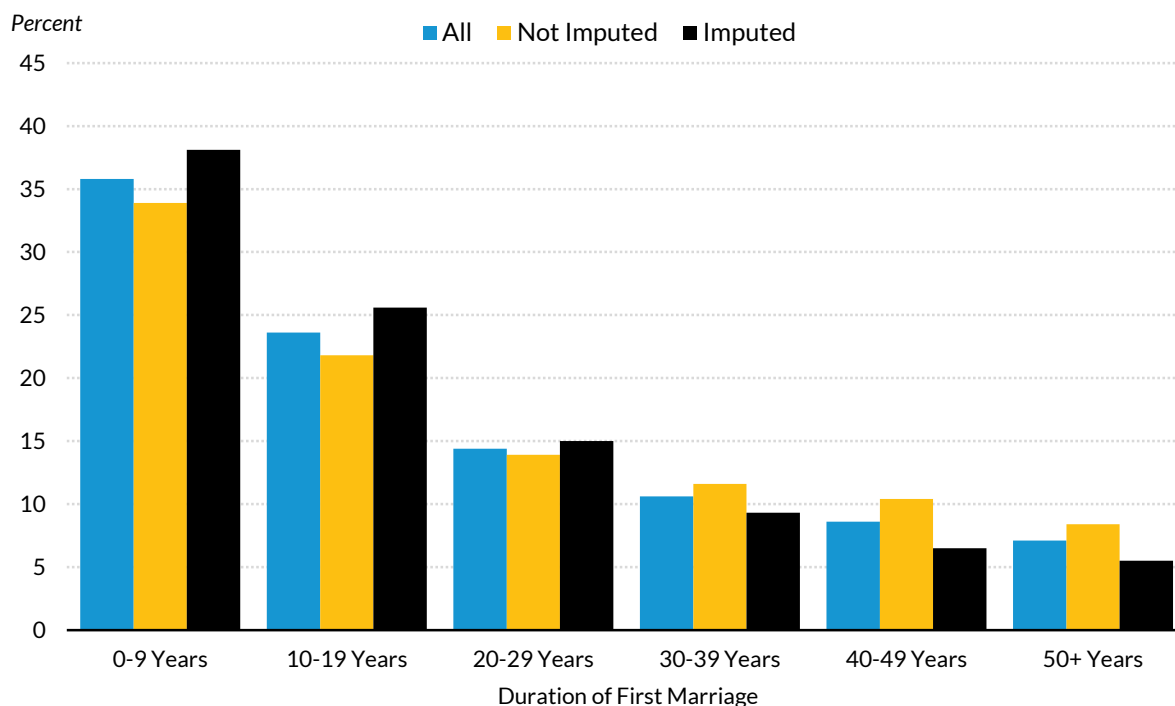


Source: Urban Institute tabulations from the 2014 SIPP data linked to the SSA supplement.

Figure 3.6 shows the distribution of the duration of first marriage among ever-married respondents by imputation status. For currently married respondents, duration is calculated from the marriage start date to December 2013. First marriage duration is slightly lower for imputed marriages than for nonimputed marriages. Again, this difference reflects the younger ages and higher rates of terminated marriages of imputed respondents compared with nonimputed respondents.

FIGURE 3.6

Distribution of Duration of First Marriage among Individuals Ever Married by Imputation Status



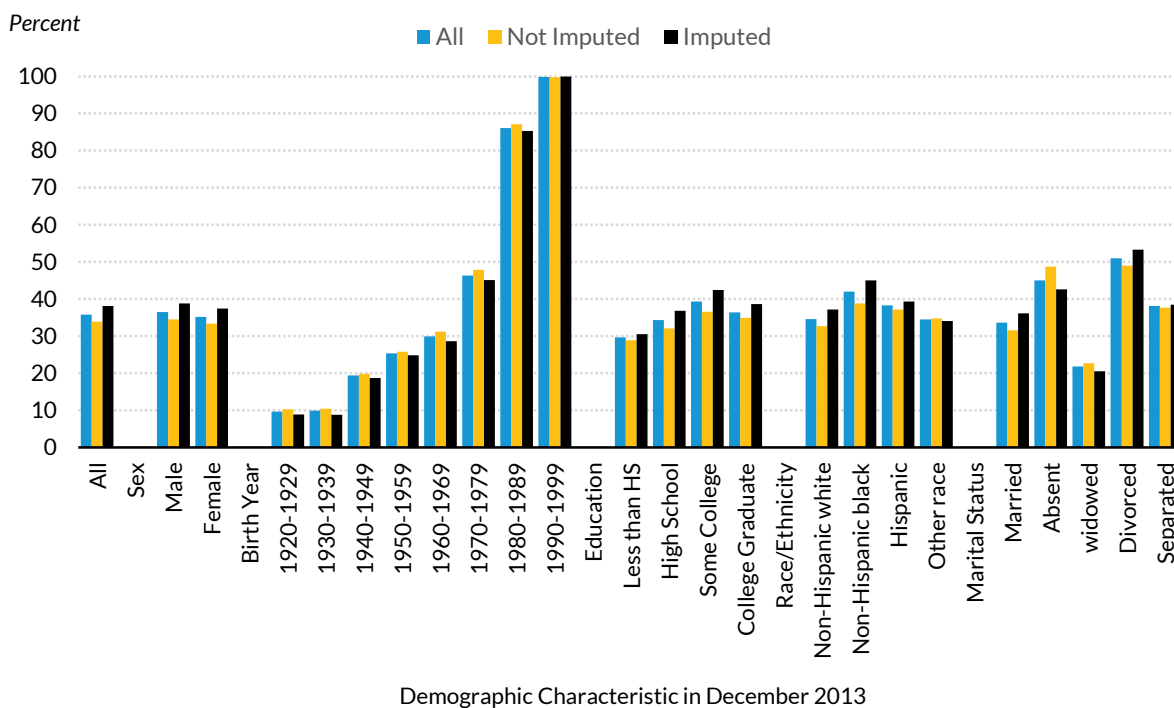
Source: Urban Institute tabulations from the 2014 SIPP data linked to the SSA supplement.

Figure 3.7 shows the percentage of first marriages with a duration less than 10 years by selected characteristics and imputation status. Imputed respondents are more likely to have first marriages lasting less than 10 years than nonimputed respondents. Controlling for age (based on the birth year selections), marriage durations for imputed and nonimputed respondents are similar.

Figure 3.8 shows the percentage of terminated first marriages that lasted less than 10 years by selected characteristics and imputation status. First marriage duration among terminated marriages is slightly more likely to be less than 10 years for imputed respondents than for nonimputed respondents. Controlling for birth year, the less than 10-year duration rates for imputed and nonimputed respondents are similar.

FIGURE 3.7

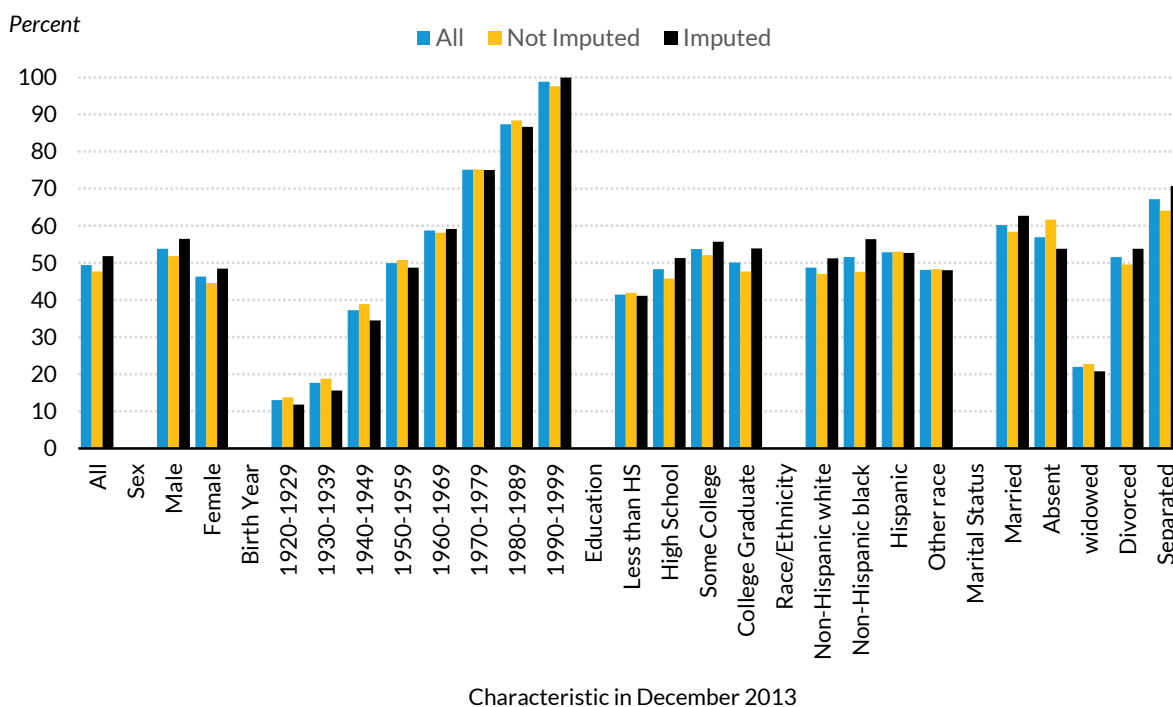
Percentage of First Marriages with Duration Less than 10 Years among Individuals Ever Married by Imputation Status



Source: Urban Institute tabulations from the 2014 SIPP data linked to the SSA supplement.

FIGURE 3.8

Percentage of First Marriages with Duration Less than 10 Years among Individuals with a Terminated First Marriage by Imputation Status



Source: Urban Institute tabulations from the 2014 SIPP data linked to the SSA supplement.

Based on the comparisons shown in figures 3.1 to 3.8, we believe the marriage imputations for nonmatched respondents look quite reasonable.

Chapter 4. Summary of Model Projections

Tables 4.1 through 4.11 and figures 4.1 through 4.15 replicate many of the detailed tables and figures found in the final reports for MINT6 (Smith et al. 2010) and MINT7 (Smith and Favreault 2013).

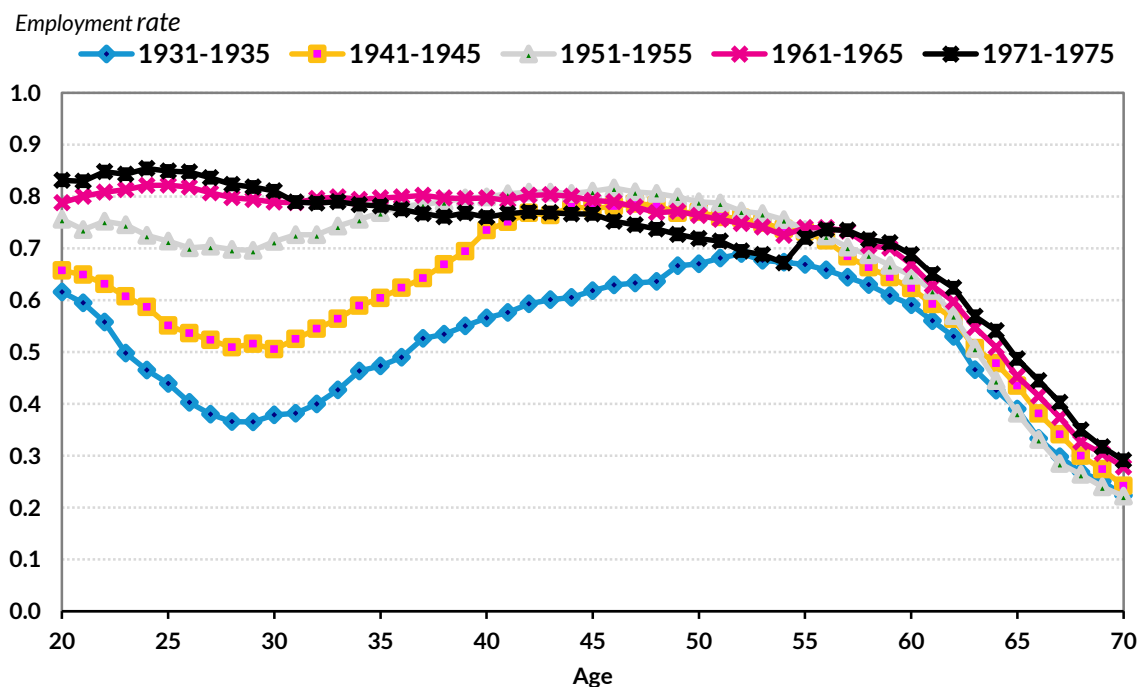
We begin by discussing MINT8's employment and earnings projections, given their importance for determining all other income sources. We then turn to Social Security claiming, pensions, and assets. The final

sections look at total income projections, first at age 67 (by birth cohort) and then at two points in time: 2020 and 2060.

Employment

Figure 4.1 shows female employment rates for selected birth cohorts from 1931 to 1975. The pattern of female employment has changed markedly over time. Women born in the early 1930s worked outside the home at much lower rates than women born in the 1970s. The dip in employment rates during women's childbearing years has all but disappeared. Both MINT8 and MINT7 have a discontinuity in employment rates between the splicing-based and regression-based employment at age 55. MINT8 projects lower employment rates than MINT7 at all ages. Employment rates in the extended cohorts (born between 1980 and 2067) largely mimic the employment rates of the 1971 to 1975 cohorts.

FIGURE 4.1
Female Employment Rates by Age and Birth Year



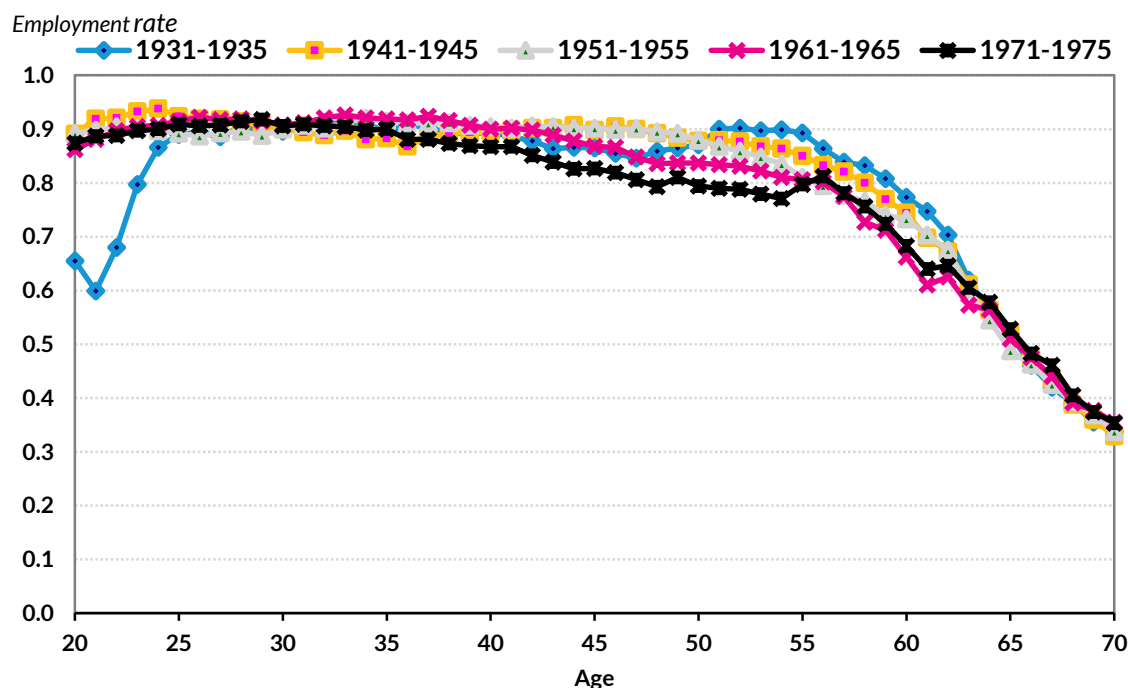
Source: Urban Institute tabulations from MINT8.

Figure 4.2 shows male employment rates for selected birth cohorts born from 1931 to 1975. The low employment rates before age 25 for men born between 1931 and 1935 reflect low coverage rates rather than low employment rates. Employment among men born in the early 1950s declined compared to men born earlier.

Projected male employment rates are lower in MINT8 than in MINT7, especially between ages 50 and 55 that are projected based on the earnings splicing algorithm.

FIGURE 4.2

Male Employment Rates by Age and Birth Year



Source: Urban Institute tabulations from MINT8.

Earnings

Figures 4.3 and 4.4 show average less-censored earnings for women and men, respectively, by birth year and education. We adjusted earnings (termed “less-censored”) because different cohorts face different Social Security taxable maximums over their working years. Adjusted earnings are capped at 2.46 times the average wage. The adjustment uses information about the pattern of quarterly earnings to project earnings above the cap for workers in early cohorts facing lower caps (Toder et al. 2002). Beginning in 1982 with the availability of DER data, MINT8 has total earnings. Using less-censored earnings allowed us to compare earnings of earlier and later cohorts using a consistent measure.

The patterns for men and women differ substantially. Average relative earnings of female workers rise with age through about age 55 and then fall. Women in later cohorts have substantially higher relative earnings than do women in earlier cohorts, and the dip in relative earnings during the peak childbearing years has all but

disappeared. While women's relative earnings have been rising, men's have fallen. Later male cohorts generally have lower relative earnings than earlier male cohorts, in large measure because of the rapid progress of women in closing the earnings gap with men. This trend, in turn, depresses the mean earnings of men relative to the economy-wide average wage. Average less-censored earnings in the extended cohorts (born between 1980 and 2067) largely mimic less-censored earnings of the 1971 to 1975 cohorts.

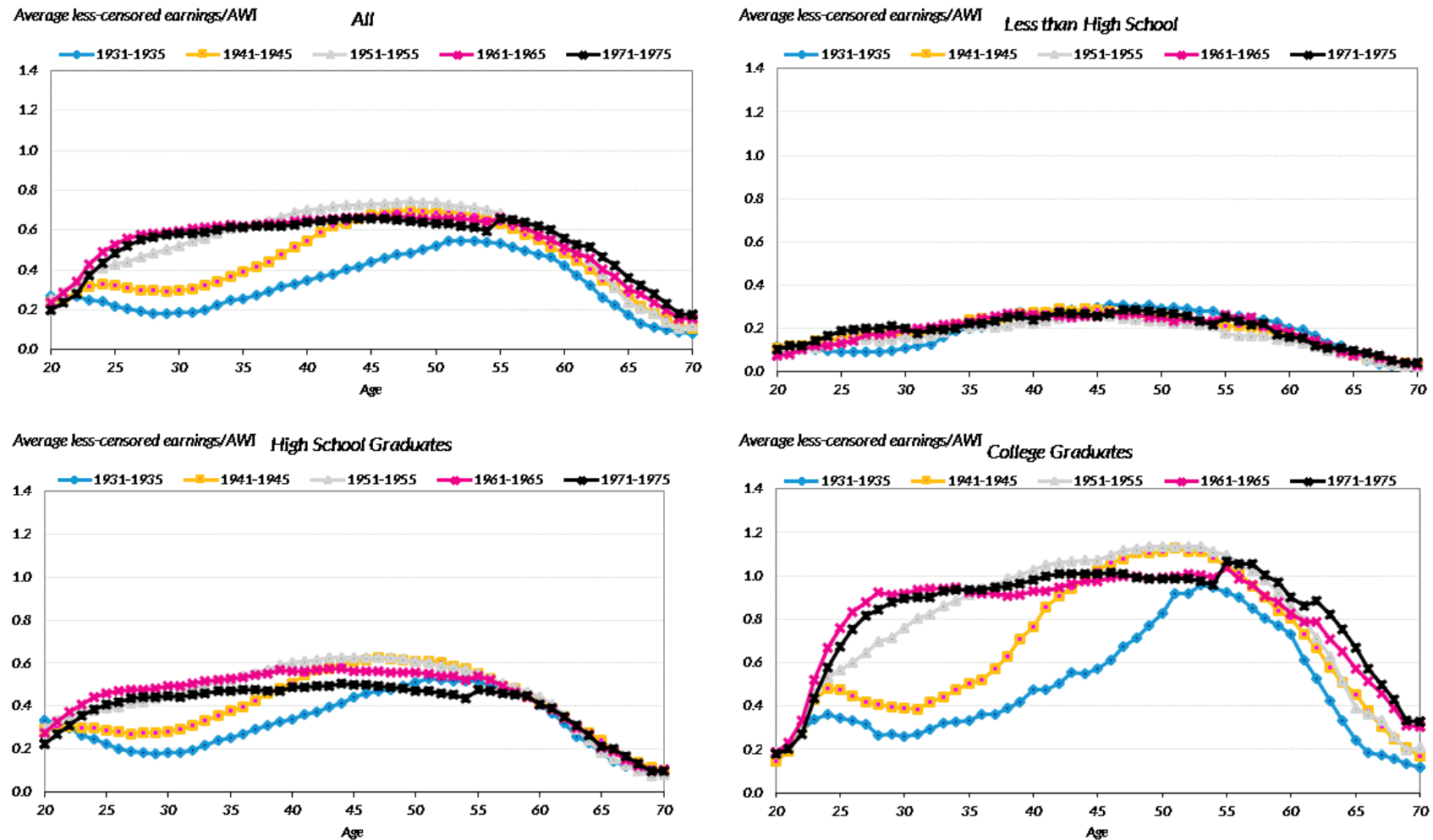
Figure 4.5 compares employment (left panels) and average less-censored earnings relative to the average wage (right panels) projected in MINT8 compared with MINT7 for women born from 1966 to 1985. The shaded area denotes the last year of administrative data (2015) for the MINT8 data. The employment and earnings up to the shaded area reflect administrative data in MINT8. The earnings in this figure include zeros. Values for the historic period are very similar between MINT7 and MINT8, but MINT8 projects lower employment and lower earnings than MINT7 in all cohorts. Figure 4.6 show the same charts for men. As with women, MINT8 projects lower labor force participation and earnings for all male cohorts than did MINT7. The gap between MINT7 and MINT8 is smaller for earlier cohorts, for which more of the data were obtained from DER.

The inclusion of people who are institutionalized in MINT8 who were excluded in MINT7 contributes to the reduction in employment and earnings, as does the addition of the DAC indicator in the earnings splicing algorithm. The discontinuities in employment and earnings at age 55 reflect the transition between the splicing method used to project earnings before age 55 and the regression method used to project earnings after age 55.

Figure 4.7 compares the MINT8 number of male covered workers and median covered earnings by age with published Statistical Supplement data for 2014 (Social Security Administration 2017, tables 4.B5 and 4.B6). Figure 4.8 show the same statistics for women. The MINT8 earnings for 2014 come from DER, which includes both total and covered earnings. MINT8 generally matches the number of covered workers for both men and women by age, though MINT8 projects too many covered workers under age 20. Median average covered earnings are too high for men under 50 years old and too low for men over age 50. The gap between MINT8 and SSA table 4.B6 is bigger at younger ages, though MINT8 is not fully representative of the population under age 32 (it does not include people who died or emigrated before age 32). MINT8 also does not include Puerto Rican residents who earn about half the national average. MINT8's aggregate Medicare Part A taxable earnings and aggregate Old-Age, Survivors, and Disability Insurance taxable earnings in 2014 are about 3 percent higher than aggregates reported in SSA tables 4.B13 and 4.B14 (Social Security Administration 2017).

FIGURE 4.3

Average Less-Censored Earnings of Female Workers Relative to Average Wage by Birth Year and Education

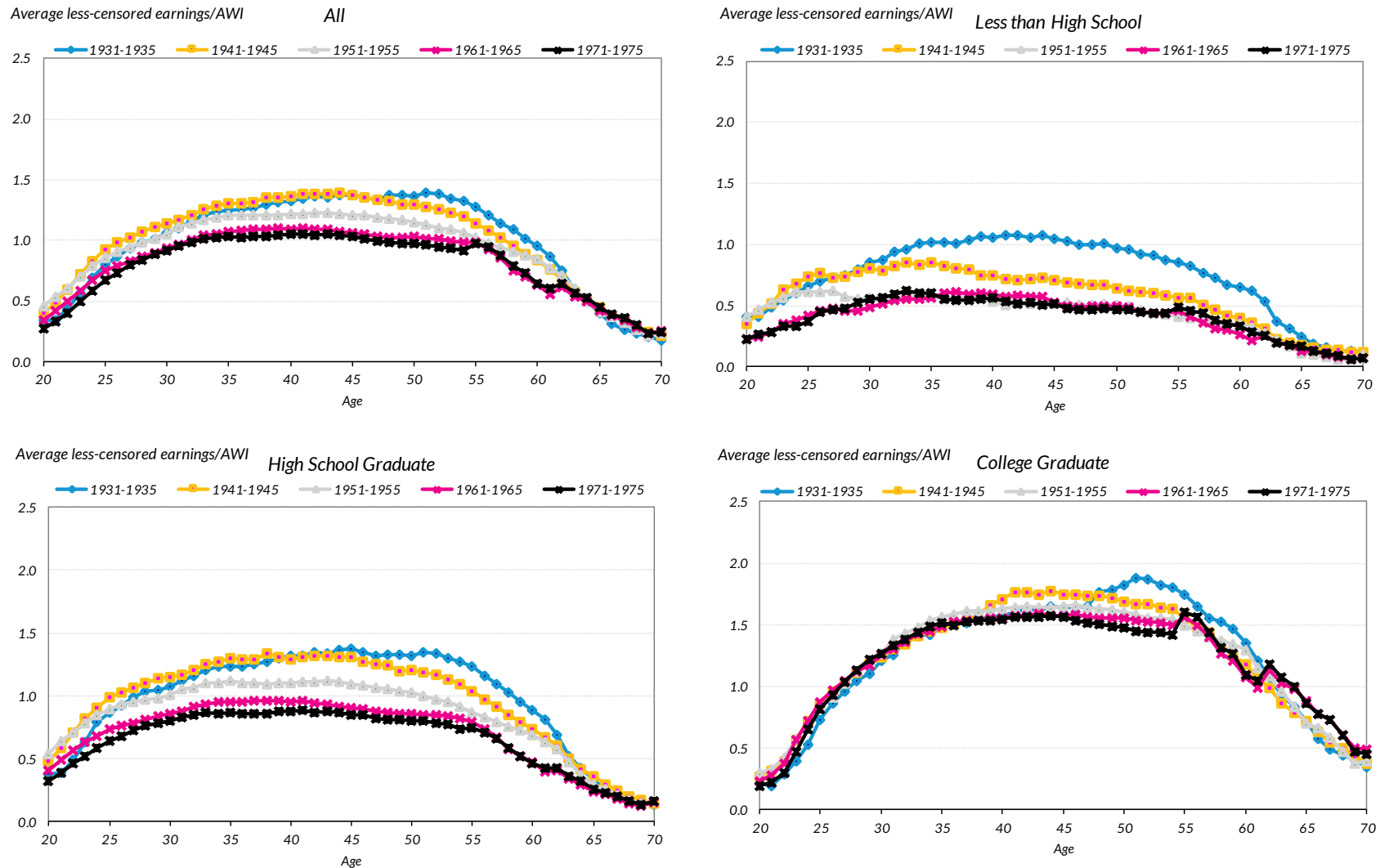


Source: Urban Institute tabulations from MINT8.

Notes: Less-censored earnings are capped at 2.46 times AWI. The figures include zeros.

FIGURE 4.4

Average Less-Censored Earnings of Male Workers Relative to Average Wage by Birth Year and Education

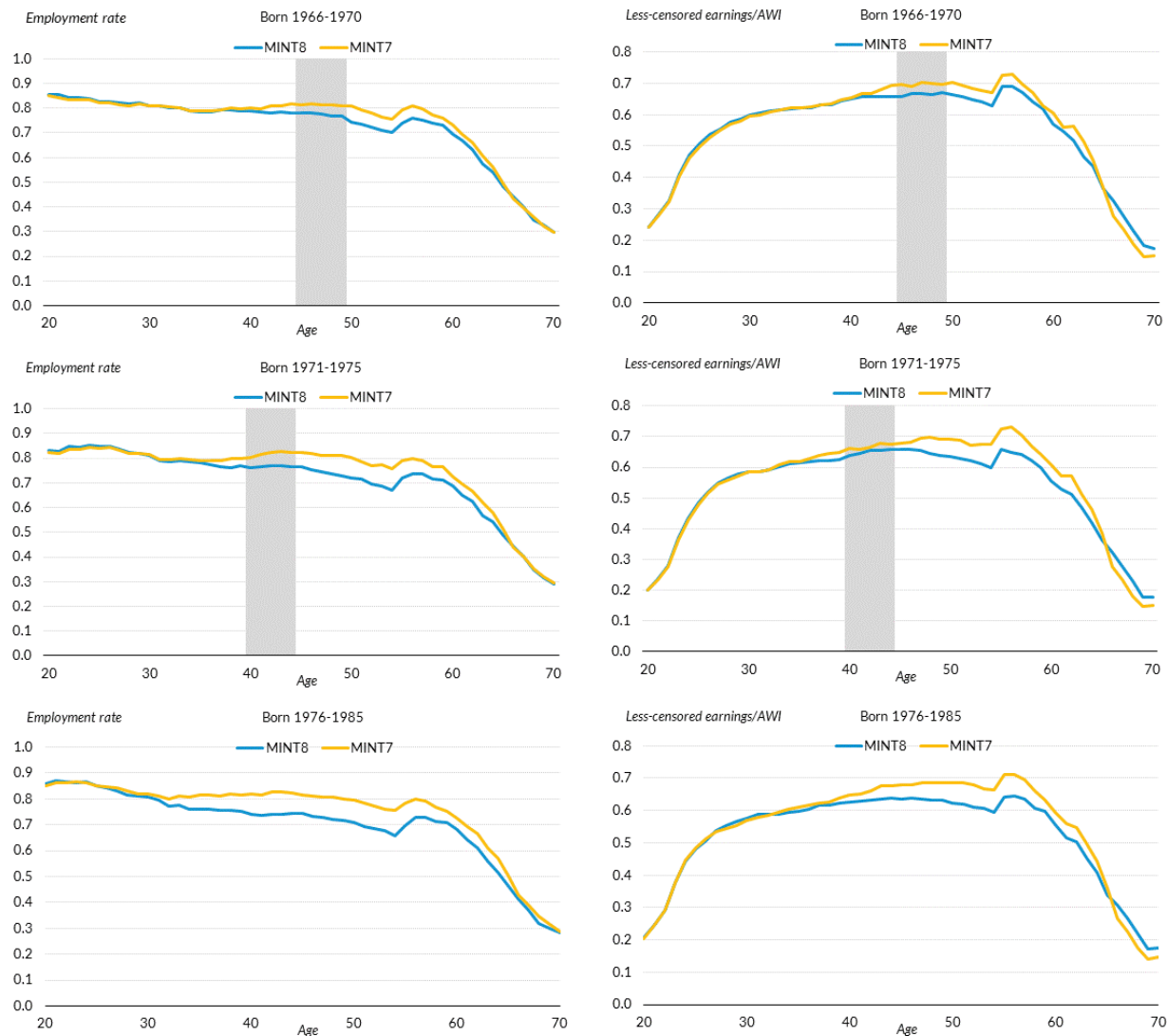


Source: Urban Institute tabulations from MINT8.

Notes: Less-censored earnings are capped at 2.46 times AWI. The figures include zeros.

FIGURE 4.5

Female Employment Rate and Average Less-Censored Earnings Relative to Average Wage, Including Nonworkers, by Birth Year and Age
MINT8 and MINT7



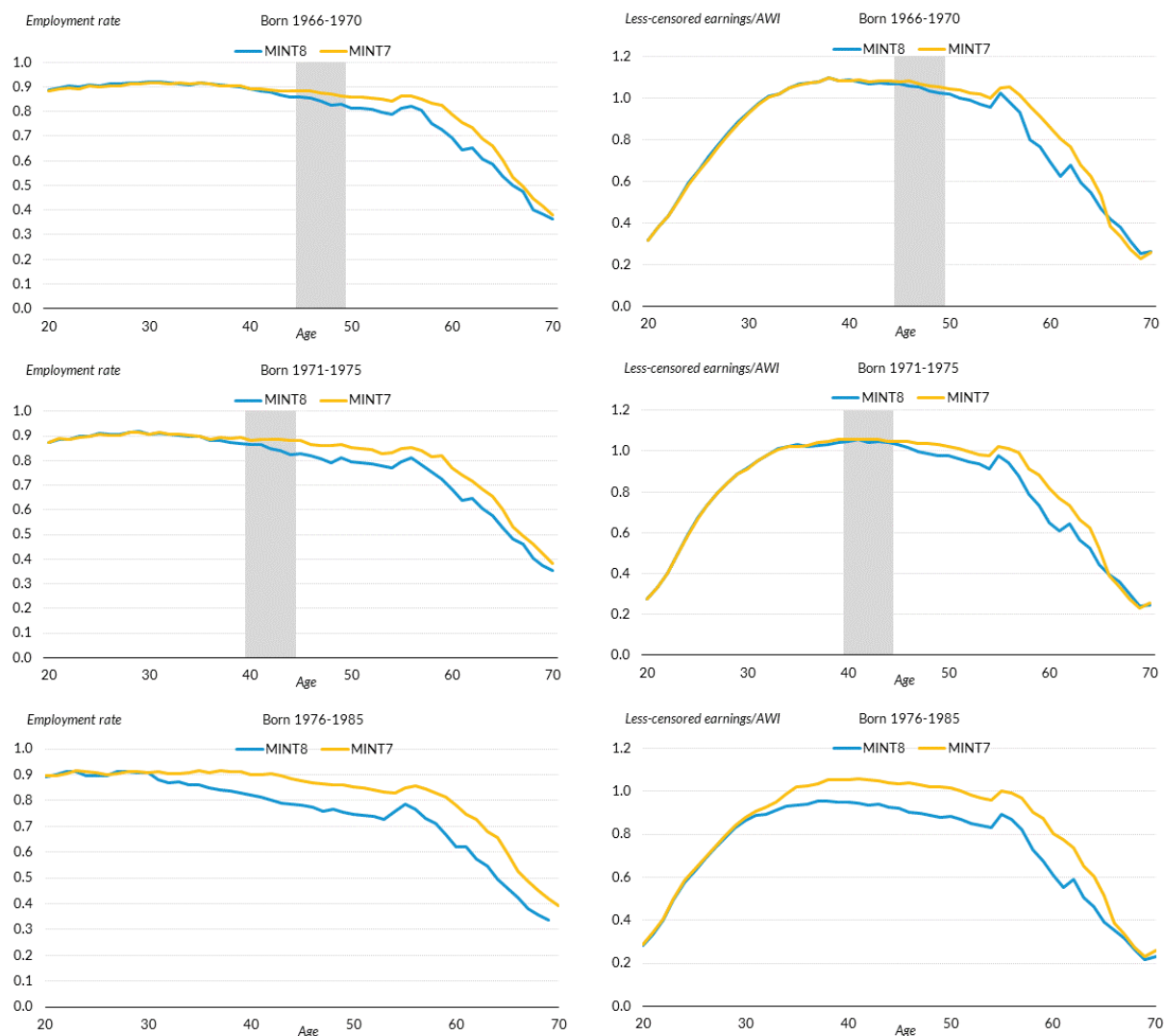
Source: Urban Institute tabulations from MINT7 and MINT8.

Notes: Less-censored earnings are capped at 2.46 times AWI. The figures include zeros.

FIGURE 4.6

Male Employment Rate and Average Less-Censored Earnings Relative to Average Wage, Including Nonworkers, by Birth Year and Age

MINT8 and MINT7

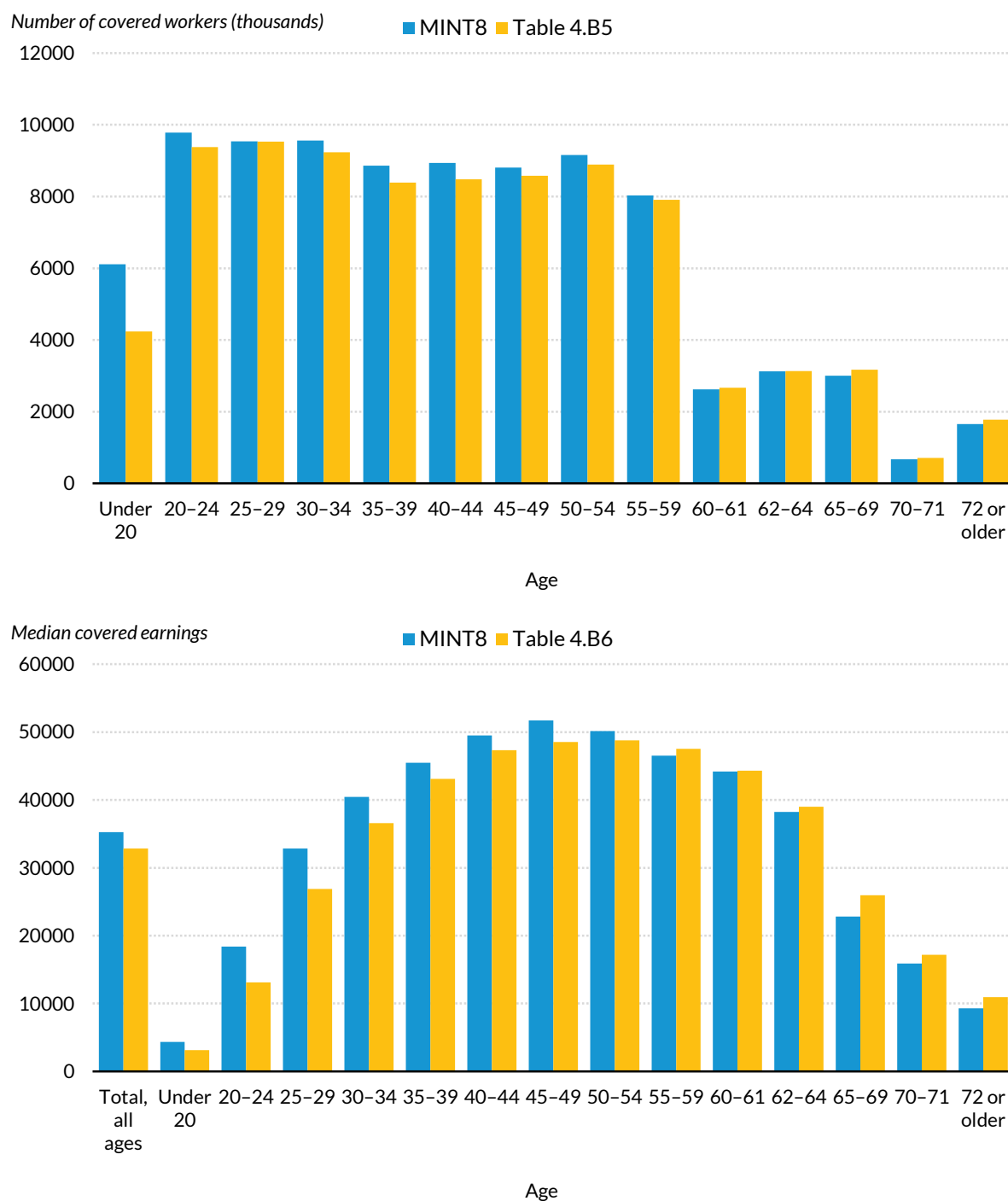


Source: Urban Institute tabulations from MINT7 and MINT8.

Notes: Less-censored earnings are capped at 2.46 times AWI. The figures include zeros.

FIGURE 4.7

Number of Male Covered Workers and Median Covered Earnings, by Age, in 2014

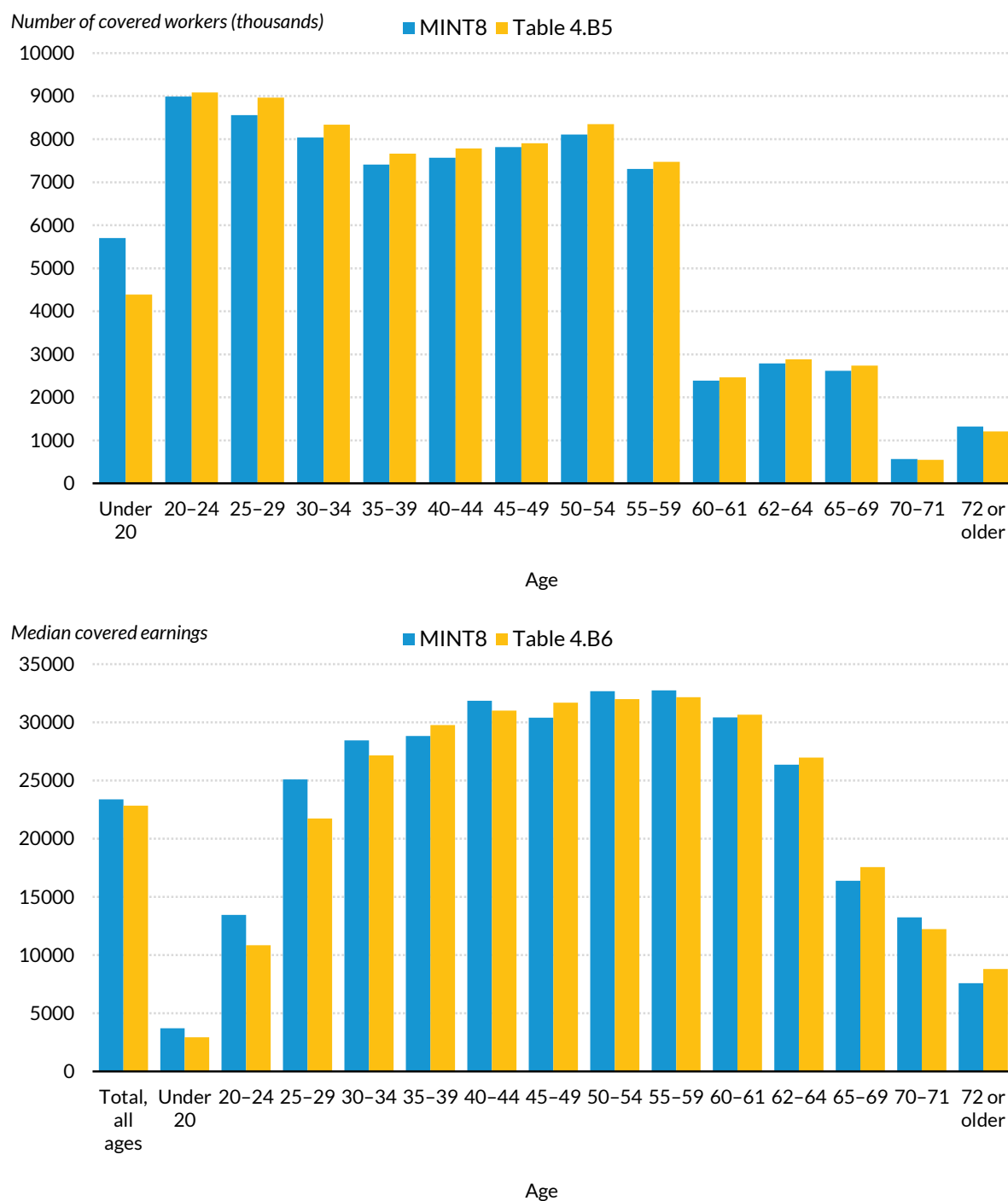


Source: Urban Institute tabulations from MINT8 and SSA Statistical Supplement tables 4.B5 and 4.B6.

Notes: MINT8 is not fully representative of the US population under age 32. It does not include emigrants and people who die before age 32.

FIGURE 4.8

Number of Female Covered Workers and Median Covered Earnings, by Age, in 2014



Source: Urban Institute tabulations from MINT8 and SSA Statistical Supplement tables 4.B5 and 4.B6.

Notes: MINT8 is not fully representative of the US population under age 32. It does not include emigrants and people who die before age 32.

Social Security Claiming

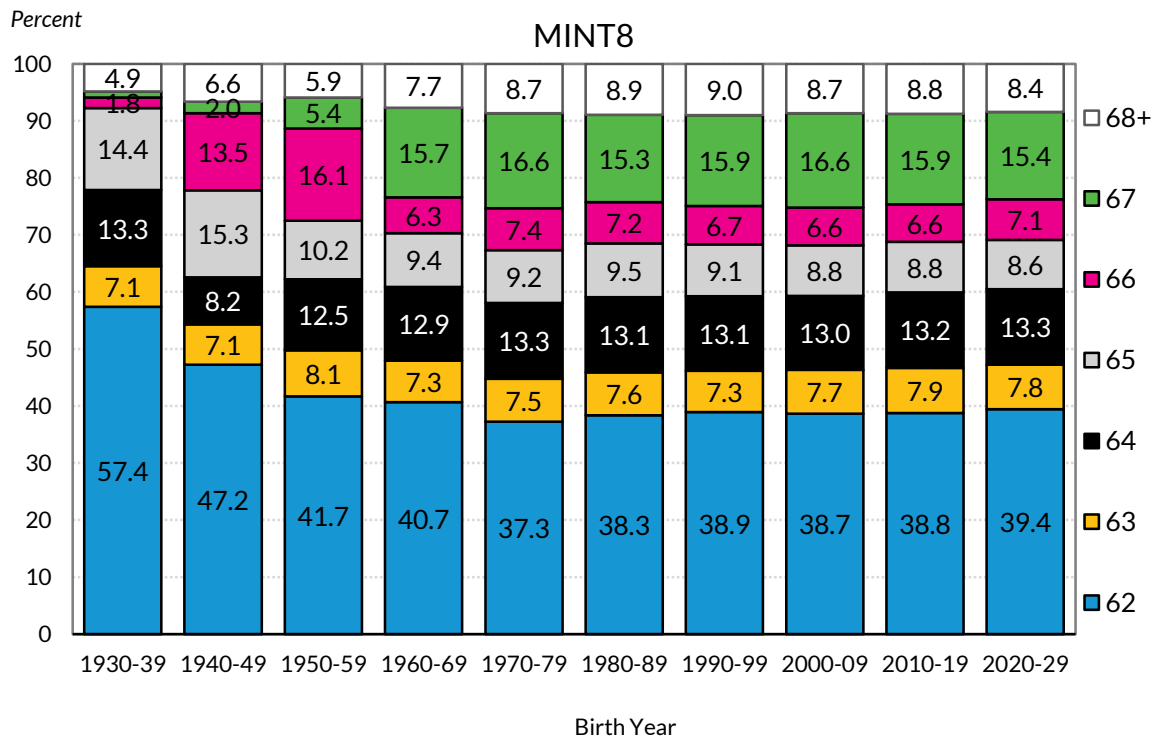
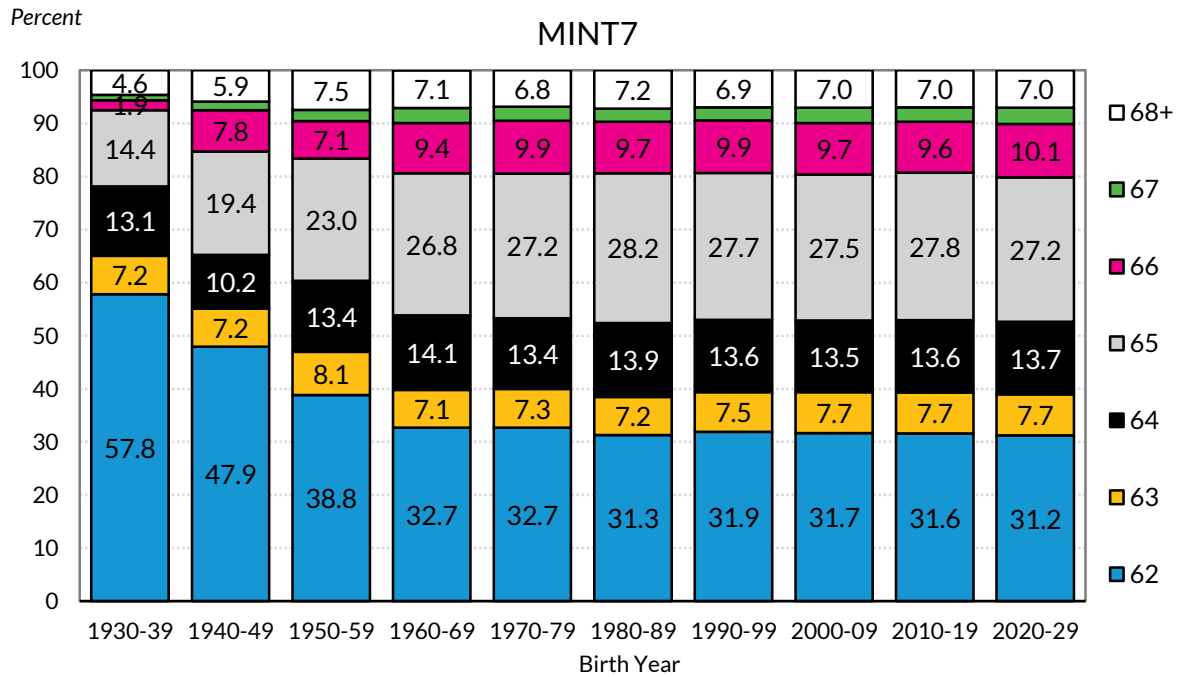
We updated the MINT8 Social Security claiming model to better account for the scheduled increase in FRA. The MINT7 claiming model specified a set of age dummy variables based on calendar year age. We modified the age dummies to be age relative to FRA in months. The revised claiming model preserves the claiming hazard slope from age 64 to FRA and projects claiming spikes at FRA as it increases from age 65 to age 66 for individuals born from 1937 to 1943. The claiming age spikes increase again for individuals born from 1954 to 1960 as FRA increases from age 66 to age 67. MINT8 assigns claiming age in months and projects claiming spikes at FRA as it increases in two-month intervals in sync with the increase in FRA.

MINT8 projects later Social Security benefit claiming than did MINT7 (figure 4.9). Figure 4.9 shows the integer claiming age. Age 62, for example, includes individuals claiming at age 62 years 0 months through age 62 years 11 months. MINT8 projects that a smaller share of Social Security beneficiaries claim at age 65 and a larger share claim after age 65 for each later cohort compared to MINT7. Tables 4.1 and 4.2 show MINT8's projected Social Security benefit claiming age by sex and by average indexed monthly earnings (AIME) quintile, respectively. Women claim benefits earlier on average than men. Individuals with higher lifetime earnings are more likely to delay claiming compared with individuals with lower lifetime earnings, but individuals in all AIME quintiles delay claiming. The gap between MINT8 and MINT7 claiming is larger for high earners than for low earners.

FIGURE 4.9

Age at Social Security Benefit Take-up by Birth Year

MINT8 and MINT7



Source: Urban Institute tabulations of MINT7 and MINT8.

Notes: The figure includes all surviving never-disabled individuals. Later cohorts do not reach retirement age by 2099.

TABLE 4.1

Projections of Age at Social Security Benefit Take-up by Year of Birth and Sex

Age at Take-up	Year of Birth									
	1930 -39	1940 -49	1950 -59	1960 -69	1970 -79	1980 -89	1990 -99	2000 -09	2010 -19	2020 -29
All workers										
60-62	57.4	47.2	41.7	40.7	37.3	38.3	38.9	38.7	38.8	39.4
63	7.1	7.1	8.1	7.3	7.5	7.6	7.3	7.7	7.9	7.8
64	13.3	8.2	12.5	12.9	13.3	13.1	13.1	13.0	13.2	13.3
65	14.4	15.3	10.2	9.4	9.2	9.5	9.1	8.8	8.8	8.6
66	1.8	13.5	16.1	6.3	7.4	7.2	6.7	6.6	6.6	7.1
67	1.1	2.0	5.4	15.7	16.6	15.3	15.9	16.6	15.9	15.4
68 and over	4.9	6.6	5.9	7.7	8.7	8.9	9.0	8.7	8.8	8.4
Males										
60-62	51.3	43.1	37.2	39.9	36.9	38.7	39.8	39.7	40.2	41.2
63	8.3	7.4	7.7	6.3	7.0	7.2	6.9	7.3	7.4	7.8
64	14.9	8.0	13.0	12.6	13.3	12.9	12.2	12.1	12.6	13.0
65	17.5	16.4	11.0	9.9	9.6	9.4	8.9	8.9	9.3	8.5
66	2.1	15.5	17.8	6.4	7.5	7.3	6.9	6.6	6.4	6.6
67	1.1	2.3	6.1	15.8	16.0	14.3	15.2	15.3	14.2	14.0
68 and over	4.8	7.3	7.2	9.1	9.9	10.2	10.0	10.0	9.9	9.0
Females										
60-62	62.4	51.0	45.6	41.4	37.6	38.0	38.0	37.7	37.4	37.7
63	6.2	6.8	8.4	8.1	8.0	7.9	7.6	8.0	8.4	7.9
64	12.1	8.4	12.0	13.2	13.3	13.4	13.8	13.8	13.9	13.5
65	11.9	14.2	9.6	9.0	9.0	9.5	9.3	8.8	8.4	8.7
66	1.6	11.7	14.7	6.1	7.2	7.1	6.5	6.6	6.7	7.6
67	1.0	1.8	4.8	15.6	17.3	16.3	16.6	17.8	17.4	16.7
68 and over	4.9	6.0	4.8	6.5	7.6	7.8	8.1	7.4	7.8	7.9

Source: Urban Institute tabulations of MINT8.

Notes: Table includes all never disabled individuals born from 1930 to 2029 who claim Social Security benefits.

TABLE 4.2

Projections of Age at Social Security Benefit Take-up by Year of Birth and AIME Quintile

Age at Take-up	Year of Birth									
	1930 -39	1940 -49	1950 -59	1960 -69	1970 -79	1980 -89	1990 -99	2000 --09	2010 -19	2020 -29
Bottom AIME quintile										
60-62	67.0	61.9	56.0	50.9	44.8	45.3	44.8	44.2	44.0	44.0
63	5.7	5.3	8.1	9.6	8.9	8.1	8.2	8.3	9.1	9.8
64	7.9	6.5	10.9	12.2	13.0	12.9	12.0	13.4	12.5	11.9
65	8.0	9.2	6.9	7.1	7.0	6.7	7.5	7.2	7.1	6.3
66	2.0	6.9	7.4	4.4	4.3	5.1	3.9	4.3	4.2	5.2
67	1.2	1.7	1.8	4.0	4.0	3.4	4.0	3.9	3.9	4.2
68 and over	8.2	8.5	9.0	11.9	18.0	18.6	19.6	18.8	19.2	18.7
Second AIME quintile										
60-62	64.8	53.0	47.4	47.9	47.0	46.0	46.1	46.7	45.5	46.3
63	6.1	7.2	10.1	10.5	9.7	10.7	10.0	11.8	11.0	10.4
64	11.7	9.0	12.7	14.5	13.0	14.2	14.2	13.4	14.5	15.1
65	10.5	15.0	10.0	8.2	9.3	9.4	9.3	9.6	8.2	9.0
66	1.3	9.9	12.9	5.7	8.1	6.8	6.4	6.1	6.4	7.2
67	1.0	1.5	3.6	9.0	8.8	8.4	9.6	8.7	9.5	7.5
68 and over	4.6	4.5	3.3	4.2	4.1	4.5	4.5	3.9	4.9	4.6
Middle AIME quintile										
60-62	54.4	43.2	40.6	38.9	35.6	39.3	38.9	37.7	38.5	39.0
63	6.9	8.4	7.8	6.3	8.7	8.3	7.7	8.3	8.7	8.7
64	15.6	9.7	12.6	14.4	15.5	14.9	15.5	15.6	16.0	16.3
65	15.2	17.4	11.5	11.5	9.9	10.4	10.9	10.0	10.4	9.8
66	2.0	13.4	17.0	8.1	8.9	8.1	7.5	7.6	6.9	7.2
67	0.8	2.1	6.3	15.5	16.7	13.8	14.5	15.2	14.4	14.1
68 and over	5.1	5.9	4.4	5.3	4.8	5.3	5.0	5.7	5.2	5.0
Fourth AIME quintile										
60-62	53.6	41.9	37.6	36.0	31.8	33.0	36.1	35.8	35.7	36.2
63	7.5	7.5	8.2	5.8	5.7	5.9	6.2	5.9	6.0	5.8
64	17.8	9.0	13.1	12.0	13.3	12.7	13.0	11.9	12.3	12.0
65	15.1	16.9	11.2	9.9	9.9	11.0	9.2	9.5	10.3	9.6
66	1.5	16.7	18.8	6.1	7.6	8.0	7.7	7.2	7.5	8.2
67	1.1	1.9	6.3	23.3	24.6	22.3	21.4	23.7	21.5	22.4
68 and over	3.2	6.1	4.7	6.7	7.0	7.0	6.4	6.0	6.6	5.8
Top AIME quintile										

Age at Take-up	Year of Birth									
	1930 -39	1940 -49	1950 -59	1960 -69	1970 -79	1980 -89	1990 -99	2000 --09	2010 -19	2020 -29
60-62	47.3	36.2	26.9	29.5	27.2	28.0	28.8	29.2	30.2	31.5
63	9.4	7.2	6.4	4.0	4.6	4.7	4.2	4.2	4.7	4.4
64	13.4	7.0	13.1	11.5	11.8	11.1	10.6	10.8	10.9	11.0
65	23.1	18.0	11.6	10.5	10.1	9.9	8.6	7.9	8.2	8.6
66	2.3	20.6	24.5	7.0	7.9	8.1	8.1	7.9	7.9	7.9
67	1.2	2.9	9.2	27.1	28.8	29.0	30.2	31.0	30.1	28.8
68 and over	3.3	8.1	8.4	10.4	9.7	9.2	9.5	9.0	8.1	7.9

Source: Urban Institute tabulations of MINT8.

Notes: Table includes all never disabled individuals born from 1930 to 2029 who claim Social Security benefits.

Pension Coverage

MINT projects the assets that workers accrue over their careers and their incomes in retirement from employer-provided pensions and other qualified retirement plans. These qualified plans include traditional DB pensions, cash balance (CB) plans, 401k plans and other DC pensions, IRAs, and Keogh plans. MINT projects pension participation, assets, and income from past, current, and future jobs.

MINT8 has several significant changes to how it projects pensions compared with MINT7:

- MINT8 updates the DB pension plan information database to include 484 state and local DB pension plans based on the Urban Institute's State and Local Employee Pension Plan (SLEPP) database. SLEPP includes state and local government pension plan descriptions, including whether the plan is covered by Social Security. The MINT7 SLEPP database included only 62 plans from a limited number of states and did not include Social Security coverage information.
- MINT8 adds projections of uncovered pensions used to calculate the windfall elimination provision and government pension offset.
- MINT8 changes the assumptions about the rate at which employers shift from DB to DC pensions based on historic data from the Pension Benefit Guaranty Corporation and the Bureau of Labor Statistics.⁴ MINT7 assumed that all nonunion private-sector DB pensions would implement a hard freeze (accruals cease for all participants) between 2007 and 2016 and that two-thirds of state and local DB pensions would soft freeze (existing participants may continue to accrue benefits) between 2007 and 2016. MINT8 assumes that between 2008 and 2016, 49 percent of private-sector nonunion DB pensions, 20 percent of private-sector union DB pensions, and 57 percent of state and local pensions froze. Among frozen DB

plans, MINT8 assumes all state and local plans and 27 percent of private-sector plans implement a soft freeze, and 73 percent of private-sector plans implement a hard freeze. MINT8 increases the share of workers with DB plans compared with MINT7.

- MINT8 now allows workers to roll over accumulated DC assets into an IRA at job separation. Cash-out amounts are limited to DC assets accumulated over the duration of the job. MINT7 cash-out reduced all accumulated DC assets to zero.
- The MINT8 pension and job change module now projects work-related expenses. Individuals begin with self-reported work expenses. With each job change, MINT8 projects whether a worker drives alone to work and assigns work expenses as a function of transportation mode and earnings.

MINT8 starts with self-reported pension type, health insurance offer, and transportation mode. All workers with a DC contribution in the DER data are assigned to have a DC plan. Although the pension module assigns health insurance offer and premiums, the final health insurance selection is done at the family level in a subsequent process.

Table 4.3 shows the projected share of individuals with pension coverage at age 62 by sex, cohort, and pension type. Table 4.4 shows the projected share of individuals with pension coverage at age 62 by cohort, AIME quintile, and pension type. These tables reveal a slight narrowing of the gender gap in pension coverage along with persistence in highly differential coverage based on lifetime earnings, with low lifetime earners very unlikely to have pensions and high lifetime earners very likely to have them.

Compared with MINT7, MINT8 projects higher pension coverage at age 62 for all cohorts (figure 4.10). Because of MINT8's slower assumed rate of future DB pension freezes compared with MINT7, MINT8 projects that more people have DB pensions (figure 4.11). Because MINT8 now rolls over DC assets into IRAs, MINT8 has fewer people with employer DC assets at age 62 than MINT7 (figure 4.12) and more people with IRA assets at age 62 (figure 4.13). The significant differences between DC and IRA coverage shown in figures 4.12 and 4.13, respectively, largely reflect the changed rollover assumption of DC plan assets at job separation rather than differences in underlying pension offer or participation rates between MINT8 and MINT7.

TABLE 4.3

Percentage of Individuals Covered by a Pension Plan at Age 62 by Year of Birth and Gender

Year of Birth and Gender	DB, DC, or CB				
	Any	CB	DB	DC	IRA
1940–1949	66.6%	48.1%	43.1%	10.7%	51.5%
Female	62.0%	41.4%	36.9%	8.7%	49.3%
Male	71.7%	55.4%	49.7%	12.8%	53.8%
1950–1959	68.7%	46.1%	39.0%	15.4%	60.3%
Female	65.8%	43.2%	37.1%	13.4%	57.6%
Male	71.9%	49.1%	41.1%	17.5%	63.3%
1960–1969	69.0%	44.8%	34.9%	19.7%	61.1%
Female	65.8%	40.5%	32.2%	15.6%	57.6%
Male	72.4%	49.2%	37.7%	24.0%	64.8%
1970–1979	65.7%	41.1%	31.0%	17.9%	58.3%
Female	62.0%	37.5%	28.6%	14.3%	54.0%
Male	69.5%	44.9%	33.5%	21.6%	62.6%
1980–1989	61.2%	37.8%	27.6%	18.3%	54.0%
Female	58.0%	34.2%	25.2%	15.1%	50.7%
Male	64.5%	41.6%	30.2%	21.6%	57.5%
1990–1999	61.2%	37.8%	26.4%	18.3%	51.8%
Female	58.0%	34.2%	23.6%	15.1%	48.3%
Male	64.5%	41.6%	29.3%	21.6%	55.4%
2000–2009	60.9%	37.3%	26.0%	17.8%	51.3%
Female	57.8%	33.5%	24.0%	14.2%	47.8%
Male	64.1%	41.3%	28.0%	21.5%	54.9%
2010–2019	60.7%	37.5%	25.8%	18.3%	51.1%
Female	58.1%	34.5%	24.0%	15.3%	48.2%
Male	63.4%	40.6%	27.7%	21.3%	54.1%
2020–2029	61.9%	38.3%	26.7%	18.6%	52.1%
Female	58.5%	34.6%	24.4%	14.8%	48.6%
Male	65.4%	42.1%	29.1%	22.5%	55.7%
2030–2039	61.5%	36.4%	26.1%	15.5%	51.8%
Female	58.0%	32.2%	23.7%	11.7%	48.0%
Male	65.1%	40.6%	28.6%	19.4%	55.7%
All	63.6%	40.2%	29.8%	17.5%	54.2%
Female	60.3%	36.3%	27.3%	14.1%	50.8%
Male	67.0%	44.1%	32.4%	21.0%	57.7%

Source: Urban Institute tabulations of MINT8.

Note: CB and Keogh plans are not reported individually in order to prevent reporting figures based on small sample sizes.

TABLE 4.4

Percentage of Individuals Covered by a Pension Plan at Age 62 by Year of Birth and AIME Quintile

Year of Birth	AIME Quintile	Any	DB, DC, or CB	DB	DC	IRA
1940–1949						
	1	25.1%	12.2%	10.9%	1.3%	17.8%
	2	55.3%	34.4%	29.4%	7.3%	42.5%
	3	73.3%	51.6%	46.9%	9.4%	53.6%
	4	86.9%	68.5%	61.9%	13.2%	64.7%
	5	92.9%	74.1%	66.4%	22.1%	78.9%
1950–1959						
	1	21.3%	10.5%	8.1%	2.7%	15.1%
	2	56.8%	32.4%	27.0%	8.4%	46.4%
	3	77.8%	50.4%	44.2%	13.0%	66.6%
	4	90.6%	64.3%	55.6%	20.9%	81.1%
	5	96.6%	72.2%	59.8%	31.8%	91.8%
1960–1969						
	1	19.6%	11.6%	6.9%	4.9%	11.5%
	2	56.6%	28.9%	22.4%	8.9%	46.2%
	3	79.0%	46.1%	36.5%	17.3%	69.4%
	4	92.8%	63.9%	52.1%	26.7%	85.9%
	5	98.0%	74.1%	57.1%	41.2%	93.5%
1970–1979						
	1	15.2%	9.1%	4.8%	4.3%	8.7%
	2	47.3%	23.6%	18.2%	6.2%	37.6%
	3	76.9%	41.7%	33.0%	13.4%	67.9%
	4	91.1%	59.2%	44.6%	26.3%	83.8%
	5	97.4%	71.8%	54.3%	38.9%	92.8%
1980–1989						
	1	13.4%	8.4%	3.6%	4.9%	6.5%
	2	46.1%	24.1%	17.5%	7.9%	33.4%
	3	72.8%	40.3%	29.5%	15.1%	60.8%
	4	88.7%	56.3%	39.1%	28.5%	80.1%
	5	95.4%	69.5%	48.6%	41.2%	90.0%
1990–1999						
	1	13.1%	7.8%	3.0%	4.9%	6.6%
	2	43.6%	23.8%	16.6%	8.6%	30.7%

Year of Birth	AIME Quintile	Any	DB, DC, or CB	DB	DC	IRA
2000–2009	3	69.7%	38.8%	27.7%	15.1%	56.9%
	4	85.8%	52.6%	38.8%	23.9%	77.0%
	5	93.7%	66.1%	45.7%	38.8%	87.7%
	1	12.2%	7.3%	3.1%	4.2%	6.4%
	2	43.8%	22.3%	15.5%	8.5%	31.1%
	3	69.6%	38.1%	27.5%	14.8%	56.9%
	4	84.9%	53.0%	38.3%	24.5%	74.6%
	5	93.7%	65.7%	45.2%	36.9%	87.2%
	1	12.5%	7.3%	3.4%	4.0%	6.4%
	2	44.3%	23.8%	16.3%	8.8%	30.8%
2010–2019	3	68.6%	37.4%	27.1%	14.4%	56.8%
	4	84.8%	52.9%	37.6%	25.6%	75.1%
	5	93.5%	66.2%	44.7%	38.5%	86.4%
	1	13.7%	8.1%	3.6%	4.7%	7.0%
	2	46.8%	24.9%	17.7%	9.0%	33.0%
	3	70.2%	38.0%	27.4%	14.9%	57.8%
	4	85.8%	53.8%	38.9%	26.1%	76.2%
	5	93.2%	66.8%	45.9%	38.7%	86.9%
	1	13.4%	7.6%	3.5%	4.2%	7.2%
	2	45.8%	24.6%	17.9%	7.7%	32.6%
2020–2029	3	68.5%	35.9%	26.9%	12.3%	55.7%
	4	86.3%	50.8%	37.5%	21.4%	76.3%
	5	93.3%	62.8%	44.7%	31.9%	87.2%
	1	15.3%	8.7%	4.7%	4.2%	8.7%
	2	48.0%	25.7%	19.2%	8.2%	35.8%
	3	72.4%	41.1%	31.6%	14.2%	60.2%
	4	87.6%	56.7%	43.2%	24.2%	77.9%
	5	94.7%	68.5%	50.1%	36.7%	88.5%
	1	15.3%	8.7%	4.7%	4.2%	8.7%
	2	48.0%	25.7%	19.2%	8.2%	35.8%
2030–2039	3	72.4%	41.1%	31.6%	14.2%	60.2%
	4	87.6%	56.7%	43.2%	24.2%	77.9%
	5	94.7%	68.5%	50.1%	36.7%	88.5%
	1	15.3%	8.7%	4.7%	4.2%	8.7%
	2	48.0%	25.7%	19.2%	8.2%	35.8%
	3	72.4%	41.1%	31.6%	14.2%	60.2%
	4	87.6%	56.7%	43.2%	24.2%	77.9%
	5	94.7%	68.5%	50.1%	36.7%	88.5%
	1	15.3%	8.7%	4.7%	4.2%	8.7%
	2	48.0%	25.7%	19.2%	8.2%	35.8%
All	3	72.4%	41.1%	31.6%	14.2%	60.2%
	4	87.6%	56.7%	43.2%	24.2%	77.9%
	5	94.7%	68.5%	50.1%	36.7%	88.5%
	1	15.3%	8.7%	4.7%	4.2%	8.7%
	2	48.0%	25.7%	19.2%	8.2%	35.8%
	3	72.4%	41.1%	31.6%	14.2%	60.2%
	4	87.6%	56.7%	43.2%	24.2%	77.9%
	5	94.7%	68.5%	50.1%	36.7%	88.5%
	1	15.3%	8.7%	4.7%	4.2%	8.7%
	2	48.0%	25.7%	19.2%	8.2%	35.8%

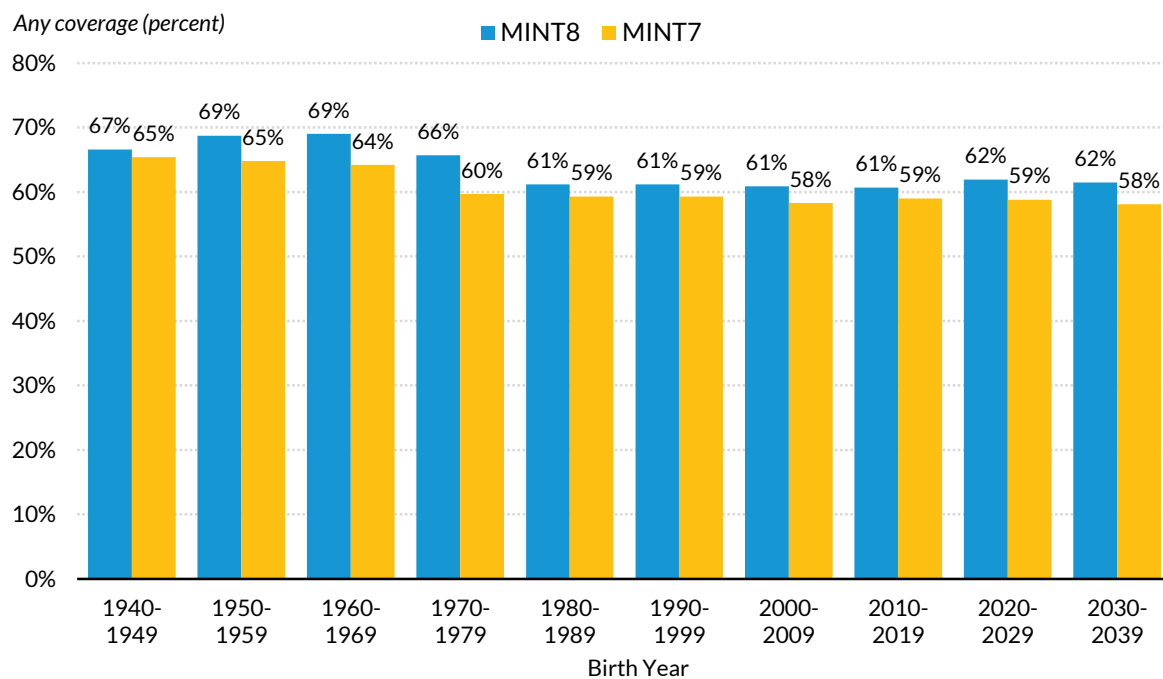
Source: Urban Institute tabulations of MINT8.

Notes: CB and Keogh plans are not reported individually in order to prevent reporting figures based on small sample sizes.

FIGURE 4.10

Percentage with Any Pension Coverage at Age 62

MINT8 and MINT7



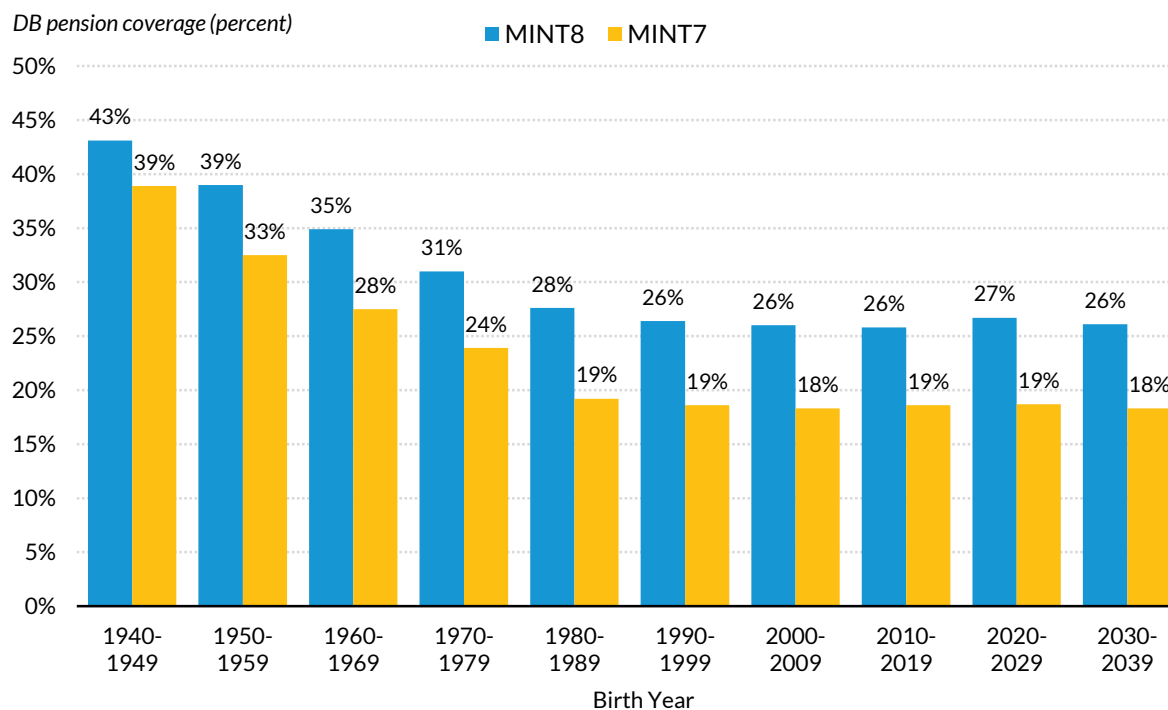
Source: Urban Institute projections from MINT8 and MINT7.

Note: Pension coverage includes DB, DC, CB, IRA, and Keogh plans.

FIGURE 4.11

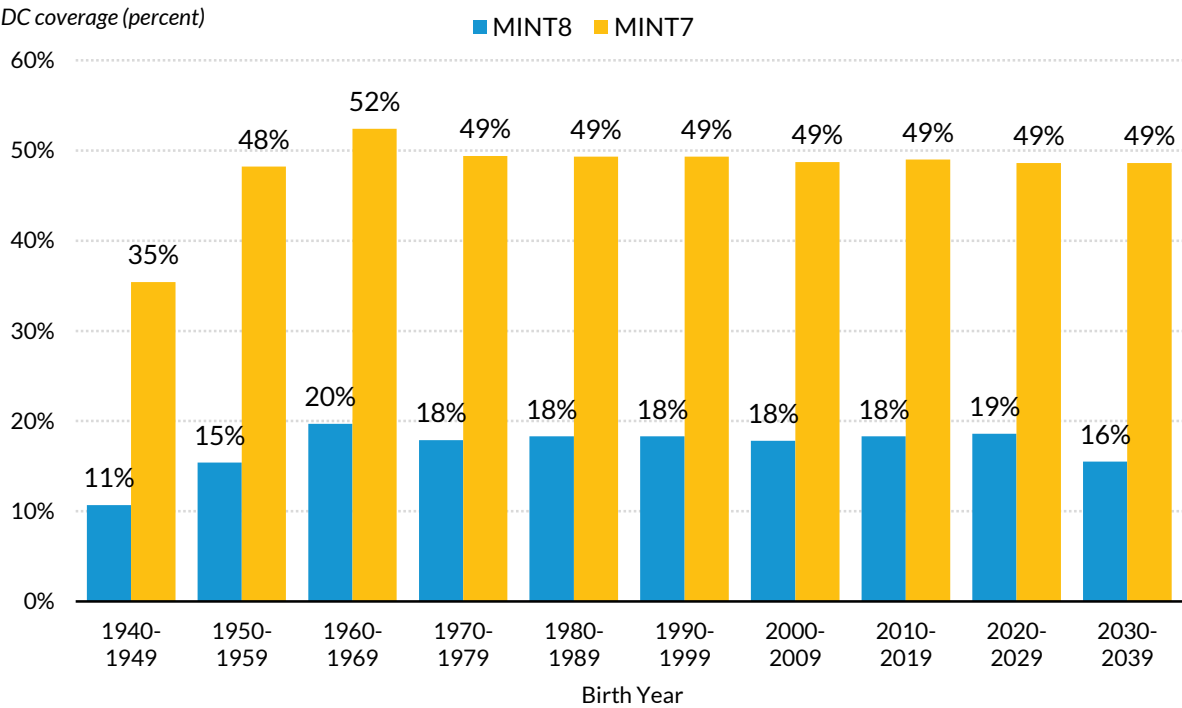
Percentage with DB Pension Coverage at Age 62

MINT8 and MINT7



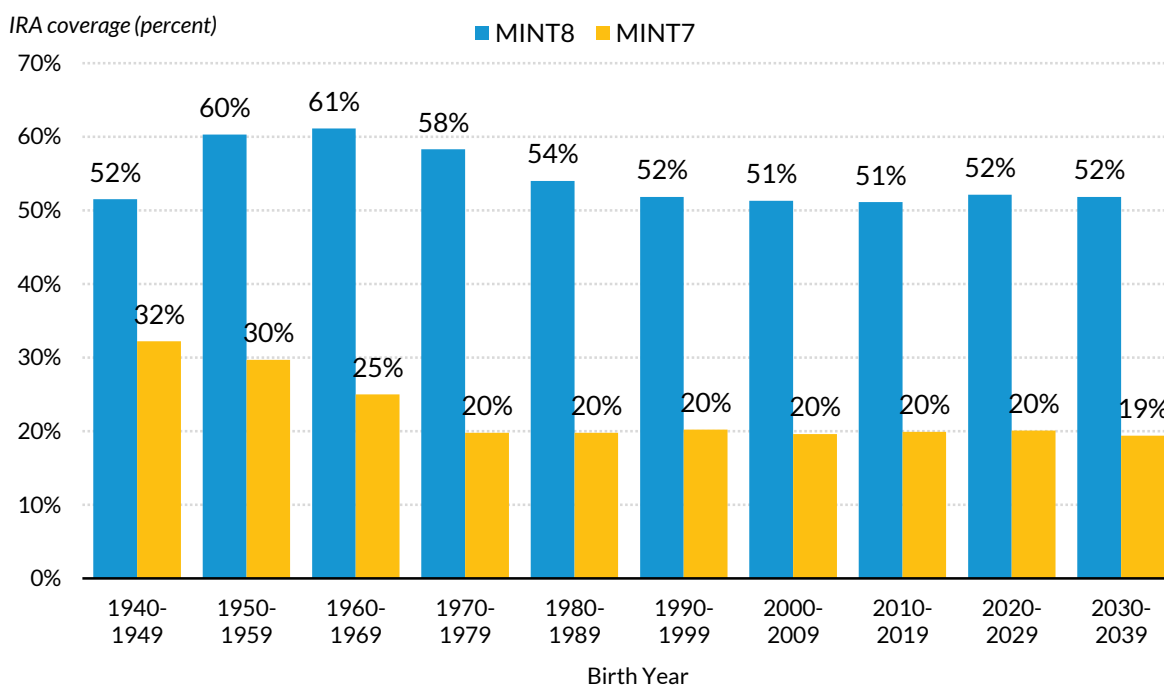
Source: Urban Institute projections from MINT8 and MINT7.

FIGURE 4.12
Percentage with DC Pension Coverage at Age 62
MINT8 and MINT7



Source: Urban Institute projections from MINT8 and MINT7.

FIGURE 4.13

Percentage with IRA Coverage at Age 62*MINT8 and MINT7*

Source: Urban Institute projections from MINT8 and MINT7.

Assets

MINT8 projects three types of assets: home equity, retirement accounts, and nonpension financial assets.

Retirement account balances include IRA, Keogh, and employer DC plans such as 401(k), 403(b), and thrift plans.

Nonpension financial assets include savings, checking, and money market account balances; stock and bond values; equity in vehicles; farm and businesses equity; and nonhome real estate equity; less unsecured debt. Because of deficiencies in self-reported pension and nonpension assets in SIPP, MINT8 aligns the 2004 SIPP assets to the 2004 Survey of Consumer Finance and aligns the 2008 SIPP assets to the 2010 Survey of Consumer Finance.⁵ In both years, calibration factors tended to be largest for financial assets.

Table 4.5 shows the distribution of retirement accounts, nonpension assets, and home equity at age 62 by birth year. The table includes individuals with zero values. As with MINT7, MINT8 asset distributions are very unequally distributed, with a person at the 95th percentile of DC assets having more than four times the DC assets of a median person at age 62 and three to four times the nonpension assets of the median person. Because MINT invests assets in financial markets, projected balances are subject to historic and projected market variation. Asset

values are the most volatile projection in MINT. MINT8 median combined nonpension and DC account balances at age 62 are as much as 17 percent lower in MINT8 than in MINT7.

TABLE 4.5

Distribution of per Capita Assets Relative to Average Wage at Age 62 by Year of Birth

	Percentile							
	Mean	20th	50th	80th	90th	95th	95th / Mean	95th / 80th
Year of Birth	<i>Per Capita DC Account Balance</i>							
1941-1949	2.17	0.00	0.34	3.89	7.70	10.79	4.98	2.78
1950-1959	3.36	0.00	0.80	5.45	10.13	15.14	4.50	2.78
1960-1969	3.15	0.00	0.94	4.98	9.10	14.18	4.50	2.85
1970-1979	3.08	0.00	0.85	4.76	8.65	13.46	4.37	2.83
1980-1989	3.25	0.00	0.64	4.93	9.14	14.04	4.32	2.85
1990-1999	3.05	0.00	0.57	4.64	8.81	13.49	4.43	2.91
2000-2009	2.95	0.00	0.56	4.53	8.42	12.99	4.40	2.87
2010-2019	2.95	0.00	0.53	4.37	8.26	12.80	4.34	2.93
2020-2029	2.91	0.00	0.54	4.32	8.13	13.13	4.52	3.04
2030-2037	2.76	0.00	0.52	4.17	7.70	12.04	4.36	2.88
	<i>Per Capita Nonpension Assets</i>							
1941-1949	6.06	0.02	0.63	5.23	12.63	29.11	4.81	5.57
1950-1959	5.07	0.03	0.58	4.12	10.67	22.43	4.42	5.44
1960-1969	2.98	0.06	0.54	2.73	6.25	12.19	4.10	4.47
1970-1979	3.18	0.06	0.53	2.52	5.91	12.07	3.80	4.79
1980-1989	3.56	0.07	0.55	2.63	6.28	12.75	3.58	4.86
1990-1999	3.73	0.07	0.60	2.80	6.79	13.78	3.70	4.92
2000-2009	3.86	0.07	0.59	2.89	6.64	14.32	3.71	4.96
2010-2019	4.29	0.08	0.58	2.82	6.79	14.38	3.36	5.09
2020-2029	3.79	0.07	0.56	2.75	6.42	13.92	3.68	5.07
2030-2037	3.51	0.06	0.53	2.64	6.13	12.68	3.61	4.80
	<i>Per Capita Financial Assets (DC + Nonpension Assets)</i>							
1941-1949	8.22	0.13	1.75	10.18	19.34	34.87	4.24	3.42
1950-1959	8.44	0.21	2.31	10.92	20.53	34.37	4.07	3.15
1960-1969	6.12	0.28	2.13	8.31	15.55	24.53	4.01	2.95
1970-1979	6.26	0.26	1.95	7.76	14.88	24.71	3.95	3.18
1980-1989	6.81	0.23	1.83	8.09	15.39	26.57	3.90	3.28
1990-1999	6.77	0.23	1.89	8.05	15.52	26.81	3.96	3.33
2000-2009	6.81	0.24	1.86	7.94	15.53	26.67	3.92	3.36
2010-2019	7.24	0.25	1.81	7.86	15.28	27.31	3.77	3.47

	Percentile							
	Mean	20th	50th	80th	90th	95th	95th / Mean	95th / 80th
2020-2029	6.69	0.23	1.76	7.65	15.22	26.95	4.03	3.53
2030-2037	6.27	0.21	1.71	7.30	14.17	23.97	3.82	3.28
<i>Per Capita Housing Wealth</i>								
1941-1949	2.14	0.00	1.28	3.64	5.51	7.57	3.54	2.08
1950-1959	2.24	0.00	1.20	3.74	5.83	8.12	3.62	2.17
1960-1969	2.55	0.04	1.15	3.79	6.30	9.49	3.72	2.50
1970-1979	2.54	0.01	1.05	3.47	6.11	9.62	3.78	2.77
1980-1989	2.64	0.00	1.02	3.34	5.73	9.44	3.58	2.83
1990-1999	2.66	0.00	1.07	3.49	6.06	10.04	3.77	2.87
2000-2009	2.82	0.00	1.09	3.65	6.43	10.24	3.63	2.81
2010-2019	2.87	0.00	1.02	3.44	6.27	10.52	3.67	3.06
2020-2029	2.75	0.00	0.98	3.41	6.28	10.45	3.80	3.07
2030-2037	2.91	0.00	0.95	3.35	6.26	10.47	3.60	3.13

Source: Urban Institute projections from MINT8.

Notes: This table includes all individuals at age 62 including those who do hold assets. Nonpension assets include the sum of vehicle equity; farm and business equity; saving, checking, money market, and certificate of deposit balances; stock and bond amounts; nonresidential real estate equity; and other asset values less unsecured debt. DC assets include IRA, Keogh, CB, and DC plans in employer accounts.

MINT8's assumptions concerning asset allocation after retirement differ from the MINT7 assumptions. MINT7 spent equal shares from financial assets and retirement account assets. MINT8 assumes some tax avoidance behavior. After an individual's retirement, MINT8 updates the value of financial wealth and retirement accounts (total wealth) by using the rate of decline of total wealth based on a spenddown function. Before age 70 1/2, MINT8 assumes that individuals spend first from their taxable accounts and then from retirement accounts if funds are needed to meet their predicted spenddown needs. After age 70 1/2, the spenddown function is calculated in the same manner; however, if individuals are not projected to spend the statutorily required amount from their retirement account assets, a portion of their spenddown that would come from their taxable accounts is instead projected to come from their retirement accounts so as to meet the legal requirements.⁶ The rate of asset decline changes based on marital status change (from married to widowed or divorced) and last year of life. Over the life course of a married couple, the rate of decay of total wealth has four slopes: (1) as a married couple, (2) married in the last year of life of the first to die, (3) as a widow(er), and (4) as a survivor in his or her last year of life. Single individuals have two slopes: (1) widowed or other single rate and (2) single last year of life rate. Additional asset spenddown shocks occur in years with high out-of-pocket medical spending.

Per Capita Income at Age 67

We projected average per capita income relative to the average wage at age 67 by birth year and marital status, ethnicity/race, education, and income quintile (tables 4.6 through 4.9). A few interesting patterns emerged:

- MINT8 projects declining mean wage-adjusted per capita incomes for people born after 1949.
- The changes to the mean total income mask important changes in the composition of incomes. MINT8 projects that earnings become an increasingly important income source at age 67, while DB pensions and asset incomes decline in importance. Social Security and imputed rental incomes remain relatively stable.
- Although these patterns cut across marital status groups (table 4.6), in percentage terms, projected reductions are largest for married couples and widows. Incomes of never married and divorced individuals fall less. This difference in projected reductions may reflect lesser selection among the unmarried over time as unmarried becomes a more common status.
- Hispanics are projected to see more stability in wage-adjusted per capita income relative to non-Hispanic blacks and non-Hispanic whites, though they continue to have lower income than non-Hispanic whites (table 4.7).
- MINT8 projects that high school graduates will experience the largest percentage reductions in per capita income across cohorts due to large reductions in DB pension income that are replaced by lower amounts of DC pension income (table 4.8).
- Although MINT8 projects that all income quintiles will experience income drops relative to average earnings over time, these projected reductions are largest in percentage terms for individuals in the bottom quintiles and smallest for those in the top quintile (table 4.9).

TABLE 4.6

Average per Capita Income Relative to Average Wage by Source at Age 67 by Marital Status and Year of Birth

	Year of Birth										
	1936– 39	1940– 49	1950– 59	1960– 69	1970– 79	1980– 89	1990– 99	2000– 09	2010– 19	2020– 29	2030– 32
All individuals											
Total income	0.99	1.17	1.01	0.87	0.81	0.76	0.75	0.75	0.72	0.71	0.71
Social Security	0.26	0.28	0.25	0.21	0.20	0.19	0.19	0.19	0.20	0.20	0.21
Financial income	0.22	0.26	0.25	0.18	0.16	0.16	0.15	0.14	0.14	0.13	0.12
DB pension income	0.19	0.23	0.16	0.09	0.07	0.05	0.04	0.04	0.04	0.04	0.04
Earned income	0.23	0.30	0.26	0.29	0.29	0.28	0.28	0.28	0.26	0.26	0.26
Imputed rent	0.06	0.06	0.07	0.07	0.07	0.06	0.07	0.07	0.07	0.07	0.06
Other income	0.02	0.04	0.03	0.02	0.03	0.02	0.02	0.02	0.02	0.02	0.02
Never-married individuals											
Total income	0.72	1.06	0.83	0.77	0.67	0.71	0.69	0.71	0.69	0.67	0.72
Social Security	0.21	0.26	0.23	0.19	0.18	0.19	0.19	0.19	0.19	0.20	0.21
Financial income	0.11	0.22	0.19	0.15	0.13	0.15	0.14	0.13	0.12	0.12	0.12
DB pension income	0.14	0.22	0.13	0.08	0.04	0.04	0.03	0.04	0.04	0.04	0.04
Earned income	0.19	0.27	0.19	0.27	0.24	0.24	0.24	0.25	0.24	0.23	0.26
Imputed rent	0.05	0.06	0.05	0.06	0.06	0.06	0.07	0.07	0.07	0.07	0.07
Other income	0.03	0.04	0.04	0.03	0.03	0.03	0.03	0.03	0.03	0.02	0.03
Married individuals											
Total income	1.03	1.23	1.07	0.90	0.84	0.78	0.78	0.76	0.73	0.71	0.70
Social Security	0.26	0.27	0.24	0.20	0.19	0.18	0.18	0.18	0.18	0.19	0.20
Financial income	0.26	0.29	0.27	0.19	0.17	0.17	0.16	0.15	0.14	0.13	0.12
DB pension income	0.19	0.23	0.17	0.10	0.07	0.05	0.04	0.05	0.04	0.04	0.04
Earned income	0.25	0.33	0.29	0.32	0.32	0.31	0.32	0.31	0.29	0.28	0.27
Imputed rent	0.06	0.06	0.06	0.07	0.06	0.06	0.06	0.06	0.06	0.06	0.05
Other income	0.01	0.04	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
Widowed individuals											
Total income	0.88	1.02	0.91	0.87	0.75	0.62	0.55	0.60	0.59	0.56	0.54
Social Security	0.30	0.33	0.28	0.25	0.22	0.19	0.18	0.19	0.19	0.19	0.20
Financial income	0.16	0.16	0.20	0.16	0.14	0.11	0.10	0.10	0.10	0.09	0.07
DB pension income	0.22	0.24	0.15	0.09	0.07	0.04	0.03	0.03	0.03	0.03	0.03
Earned income	0.10	0.16	0.16	0.22	0.20	0.18	0.15	0.17	0.17	0.16	0.14
Imputed rent	0.08	0.08	0.09	0.11	0.09	0.07	0.07	0.08	0.08	0.07	0.07
Other income	0.02	0.05	0.03	0.03	0.04	0.03	0.03	0.03	0.02	0.03	0.03
Divorced individuals											

Total income	0.97	1.07	0.96	0.84	0.84	0.80	0.80	0.81	0.79	0.78	0.77
Social Security	0.27	0.31	0.28	0.24	0.22	0.22	0.23	0.22	0.23	0.23	0.24
Financial income	0.15	0.19	0.21	0.17	0.16	0.16	0.16	0.15	0.14	0.13	0.12
DB pension income	0.16	0.21	0.16	0.09	0.07	0.06	0.04	0.05	0.04	0.05	0.04
Earned income	0.30	0.27	0.22	0.24	0.28	0.25	0.26	0.27	0.26	0.26	0.26
Imputed rent	0.07	0.05	0.06	0.07	0.08	0.08	0.08	0.09	0.09	0.08	0.08
Other income	0.02	0.04	0.03	0.03	0.04	0.03	0.03	0.03	0.03	0.03	0.03

Source: Urban Institute tabulations from MINT8.

Notes: To minimize the effects of outliers, the table excludes individuals whose financial income is in the top 5 percent of their cohort. Values are for the full population, not just those who have the income type.

TABLE 4.7

Average per Capita Income Relative to Average Wage by Source at Age 67 by Race and Year of Birth

	Year of Birth										
	1936–39	1940–49	1950–59	1960–69	1970–79	1980–89	1990–99	2000–09	2010–19	2020–29	2030–32
All individuals											
Total income	0.99	1.17	1.01	0.87	0.81	0.76	0.75	0.75	0.72	0.71	0.71
Social Security	0.26	0.28	0.25	0.21	0.20	0.19	0.19	0.19	0.20	0.20	0.21
Financial income	0.22	0.26	0.25	0.18	0.16	0.16	0.15	0.14	0.14	0.13	0.12
DB pension income	0.19	0.23	0.16	0.09	0.07	0.05	0.04	0.04	0.04	0.04	0.04
Earned income	0.23	0.30	0.26	0.29	0.29	0.28	0.28	0.28	0.26	0.26	0.26
Imputed rent	0.06	0.06	0.07	0.07	0.07	0.06	0.07	0.07	0.07	0.07	0.06
Other income	0.02	0.04	0.03	0.02	0.03	0.02	0.02	0.02	0.02	0.02	0.02
White, non-Hispanics											
Total income	1.07	1.28	1.13	0.98	0.95	0.90	0.89	0.90	0.88	0.86	0.87
Social Security	0.28	0.30	0.27	0.23	0.22	0.21	0.21	0.21	0.22	0.22	0.23
Financial income	0.26	0.30	0.30	0.22	0.20	0.20	0.19	0.18	0.18	0.16	0.16
DB pension income	0.21	0.25	0.19	0.11	0.08	0.06	0.05	0.05	0.05	0.05	0.05
Earned income	0.25	0.33	0.28	0.33	0.34	0.33	0.33	0.33	0.32	0.32	0.32
Imputed rent	0.07	0.07	0.07	0.08	0.08	0.08	0.08	0.09	0.09	0.08	0.09
Other income	0.01	0.04	0.02	0.02	0.03	0.02	0.02	0.02	0.02	0.02	0.02
Black, non-Hispanics											
Total income	0.76	0.89	0.73	0.70	0.68	0.61	0.63	0.65	0.63	0.61	0.65
Social Security	0.25	0.26	0.22	0.20	0.19	0.19	0.20	0.19	0.20	0.20	0.20
Financial income	0.09	0.11	0.10	0.10	0.11	0.10	0.10	0.10	0.10	0.09	0.09
DB pension income	0.14	0.22	0.15	0.09	0.05	0.04	0.03	0.03	0.03	0.04	0.04
Earned income	0.22	0.21	0.19	0.23	0.25	0.20	0.22	0.22	0.21	0.20	0.24
Imputed rent	0.04	0.04	0.04	0.04	0.05	0.05	0.05	0.06	0.05	0.06	0.06

Other income	0.02	0.05	0.04	0.04	0.03	0.03	0.04	0.04	0.04	0.03	0.04
Hispanics											
Total income	0.52	0.67	0.60	0.57	0.55	0.49	0.51	0.53	0.53	0.53	0.53
Social Security	0.17	0.20	0.19	0.17	0.17	0.16	0.17	0.17	0.18	0.18	0.19
Financial income	0.07	0.10	0.10	0.09	0.09	0.09	0.09	0.09	0.09	0.08	0.08
DB pension income	0.10	0.10	0.08	0.05	0.04	0.02	0.02	0.03	0.03	0.03	0.03
Earned income	0.10	0.18	0.15	0.18	0.17	0.16	0.17	0.18	0.18	0.18	0.17
Imputed rent	0.04	0.05	0.04	0.05	0.05	0.04	0.04	0.04	0.04	0.04	0.04
Other income	0.04	0.05	0.03	0.03	0.03	0.02	0.02	0.02	0.02	0.02	0.02

Source: Urban Institute tabulations from MINT8.

Notes: To minimize the effects of outliers, the table excludes individuals whose financial income is in the top 5 percent of their cohort. Values are for the full population, not just those who have the income type.

TABLE 4.8

Average per Capita Income Relative to Average Wage by Source at Age 67, by Educational Attainment and Year of Birth

	Year of Birth										
	1936– 39	1940– 49	1950– 59	1960– 69	1970– 79	1980– 89	1990– 99	2000– 09	2010– 19	2020– 29	2030– 32
All individuals											
Total income	0.99	1.17	1.01	0.87	0.81	0.76	0.75	0.75	0.72	0.71	0.71
Social Security	0.26	0.28	0.25	0.21	0.20	0.19	0.19	0.19	0.20	0.20	0.21
Financial income	0.22	0.26	0.25	0.18	0.16	0.16	0.15	0.14	0.14	0.13	0.12
DB pension income	0.19	0.23	0.16	0.09	0.07	0.05	0.04	0.04	0.04	0.04	0.04
Earned income	0.23	0.30	0.26	0.29	0.29	0.28	0.28	0.28	0.26	0.26	0.26
Imputed rent	0.06	0.06	0.07	0.07	0.07	0.06	0.07	0.07	0.07	0.07	0.06
Other income	0.02	0.04	0.03	0.02	0.03	0.02	0.02	0.02	0.02	0.02	0.02
High school dropouts											
Total income	0.50	0.52	0.40	0.35	0.34	0.33	0.33	0.33	0.32	0.33	0.33
Social Security	0.20	0.20	0.16	0.13	0.13	0.13	0.13	0.13	0.14	0.14	0.15
Financial income	0.08	0.07	0.06	0.05	0.05	0.05	0.05	0.05	0.04	0.04	0.04
DB pension income	0.06	0.07	0.03	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Earned income	0.10	0.11	0.08	0.10	0.10	0.10	0.10	0.10	0.09	0.10	0.09
Imputed rent	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
Other income	0.02	0.05	0.03	0.02	0.03	0.02	0.02	0.02	0.02	0.02	0.02
High school graduates											
Total income	0.95	1.03	0.86	0.71	0.65	0.60	0.60	0.60	0.58	0.58	0.57
Social Security	0.27	0.29	0.25	0.22	0.21	0.20	0.20	0.20	0.20	0.20	0.21
Financial income	0.21	0.21	0.20	0.14	0.12	0.11	0.11	0.11	0.10	0.10	0.09

DB pension income	0.19	0.20	0.13	0.07	0.04	0.03	0.03	0.03	0.03	0.03	0.03
Earned income	0.20	0.24	0.19	0.20	0.20	0.18	0.18	0.18	0.17	0.17	0.17
Imputed rent	0.06	0.06	0.06	0.06	0.05	0.05	0.05	0.05	0.05	0.05	0.05
Other income	0.02	0.04	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
College graduates											
Total income	1.49	1.73	1.52	1.38	1.28	1.23	1.20	1.22	1.17	1.14	1.18
Social Security	0.27	0.30	0.28	0.22	0.22	0.21	0.21	0.21	0.22	0.22	0.24
Financial income	0.39	0.43	0.41	0.32	0.29	0.28	0.26	0.25	0.24	0.22	0.21
DB pension income	0.29	0.36	0.28	0.16	0.13	0.09	0.07	0.08	0.08	0.08	0.08
Earned income	0.44	0.52	0.44	0.54	0.53	0.52	0.53	0.54	0.50	0.49	0.52
Imputed rent	0.09	0.09	0.10	0.12	0.11	0.10	0.11	0.12	0.12	0.11	0.11
Other income	0.02	0.03	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02

Source: Urban Institute tabulations from MINT8.

Notes: To minimize the effects of outliers, the table excludes individuals whose financial income is in the top 5 percent of their cohort. Values are for the full population, not just those who have the income type.

TABLE 4.9

Average per Capita Income Relative to Average Wage by Source at Age 67, by per Capita Income Quintile and Year of Birth

	Year of Birth										
	1936– 39	1940– 49	1950– 59	1960– 69	1970– 79	1980– 89	1990– 99	2000– 09	2010– 19	2020– 29	2030– 32
All individuals											
Total income	0.99	1.17	1.01	0.87	0.81	0.76	0.75	0.75	0.72	0.71	0.71
Social Security	0.26	0.28	0.25	0.21	0.20	0.19	0.19	0.19	0.20	0.20	0.21
Financial income	0.22	0.26	0.25	0.18	0.16	0.16	0.15	0.14	0.14	0.13	0.12
DB pension income	0.19	0.23	0.16	0.09	0.07	0.05	0.04	0.04	0.04	0.04	0.04
Earned income	0.23	0.30	0.26	0.29	0.29	0.28	0.28	0.28	0.26	0.26	0.26
Imputed rent	0.06	0.06	0.07	0.07	0.07	0.06	0.07	0.07	0.07	0.07	0.06
Other income	0.02	0.04	0.03	0.02	0.03	0.02	0.02	0.02	0.02	0.02	0.02
Bottom quintile											
Total income	0.24	0.27	0.22	0.19	0.15	0.13	0.13	0.12	0.12	0.12	0.12
Social Security	0.15	0.16	0.14	0.11	0.08	0.07	0.07	0.07	0.07	0.07	0.08
Financial income	0.01	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.01
DB pension income	0.01	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Earned income	0.02	0.02	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.00
Imputed rent	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.01
Other income	0.03	0.03	0.02	0.02	0.02	0.02	0.02	0.02	0.01	0.01	0.01

Quintile 2

Total income	0.53	0.62	0.51	0.43	0.37	0.33	0.33	0.32	0.32	0.32	0.32
Social Security	0.26	0.28	0.24	0.21	0.20	0.19	0.18	0.19	0.19	0.19	0.20
Financial income	0.06	0.08	0.08	0.06	0.06	0.05	0.05	0.05	0.04	0.04	0.04
DB pension income	0.08	0.09	0.05	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Earned income	0.08	0.09	0.07	0.07	0.06	0.04	0.04	0.04	0.04	0.04	0.03
Imputed rent	0.05	0.05	0.04	0.04	0.04	0.03	0.04	0.04	0.03	0.03	0.03
Other income	0.01	0.03	0.02	0.02	0.02	0.01	0.01	0.01	0.01	0.01	0.01
Quintile 3											
Total income	0.84	0.98	0.83	0.72	0.65	0.59	0.58	0.57	0.55	0.54	0.54
Social Security	0.29	0.31	0.27	0.24	0.23	0.22	0.22	0.22	0.23	0.23	0.24
Financial income	0.16	0.18	0.17	0.13	0.12	0.11	0.11	0.10	0.10	0.09	0.09
DB pension income	0.16	0.21	0.13	0.06	0.03	0.02	0.02	0.02	0.02	0.02	0.02
Earned income	0.15	0.18	0.17	0.19	0.18	0.16	0.15	0.15	0.14	0.13	0.13
Imputed rent	0.07	0.06	0.06	0.06	0.06	0.05	0.05	0.06	0.05	0.05	0.05
Other income	0.01	0.05	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.02	0.03
Quintile 4											
Total income	1.33	1.50	1.33	1.16	1.08	1.01	0.98	0.98	0.95	0.92	0.92
Social Security	0.31	0.32	0.30	0.26	0.26	0.25	0.25	0.25	0.25	0.25	0.26
Financial income	0.34	0.37	0.36	0.26	0.23	0.23	0.21	0.20	0.19	0.18	0.17
DB pension income	0.29	0.35	0.23	0.12	0.08	0.06	0.05	0.05	0.05	0.05	0.04
Earned income	0.29	0.33	0.32	0.39	0.39	0.37	0.36	0.37	0.36	0.34	0.33
Imputed rent	0.09	0.08	0.09	0.09	0.09	0.08	0.08	0.08	0.08	0.08	0.07
Other income	0.02	0.05	0.03	0.03	0.04	0.03	0.03	0.04	0.03	0.03	0.04
Top quintile											
Total income	2.41	2.89	2.53	2.22	2.13	2.07	2.07	2.07	2.00	1.94	1.98
Social Security	0.31	0.35	0.32	0.25	0.25	0.25	0.25	0.25	0.26	0.26	0.29
Financial income	0.69	0.77	0.72	0.51	0.47	0.46	0.45	0.41	0.40	0.37	0.34
DB pension income	0.50	0.56	0.48	0.31	0.24	0.18	0.15	0.18	0.17	0.16	0.17
Earned income	0.78	1.05	0.84	0.95	0.98	0.98	1.02	1.02	0.96	0.94	0.97
Imputed rent	0.11	0.11	0.14	0.17	0.17	0.16	0.17	0.19	0.19	0.18	0.18
Other income	0.02	0.05	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.04	0.03

Source: Urban Institute tabulations from MINT8.

Notes: To minimize the effects of outliers, the table excludes individuals whose financial income is in the top 5 percent of their cohort. Values are for the full population, not just those who have the income type.

Per Capita Income in 2020

Table 4.10 provides cross-sectional information on mean wage-adjusted per capita income in 2020 by key characteristics (education, age, gender, marital status, race and Hispanicity, beneficiary status, and per capita income quintile). It departs from tables 4.3 to 4.9 by pooling individuals at multiple ages.

A few interesting patterns from table 4.10 include the following:

- MINT8's income projections display typical patterns, varying significantly by age, education, and race/Hispanicity.
- The composition of income varies significantly by age, with earnings playing the predominant role until individuals reach their sixties and start to retire. At that point, Social Security and pensions become more important.
- Asset income increases with age, reflecting wealth accumulation and our annuitization assumptions.
- Beneficiary status is an important correlate of average per capita income. Those individuals not receiving Social Security income have the highest projected average incomes, followed by Old-Age and Survivors Insurance beneficiaries. Disability insurance beneficiaries have substantially lower incomes. By definition, SSI beneficiaries have very low incomes.

TABLE 4.10

Average per Capita Income Relative to Average Wage in 2020, by Individual Characteristics and Income Source, Age 32 and Older

	Individuals (%)	Total Income	Social Security	DB Pensions	Income from Financial Assets	Earnings	Imputed Rent	Other Income
All	100%	0.99	0.09	0.08	0.15	0.59	0.04	0.03
Educational attainment								
High school dropout	10	0.47	0.06	0.02	0.04	0.29	0.02	0.03
High school graduate	61	0.83	0.10	0.06	0.13	0.47	0.04	0.04
College graduate	29	1.51	0.09	0.12	0.25	0.95	0.07	0.02
Race/ethnicity								
White, non-Hispanic	65	1.11	0.11	0.10	0.20	0.62	0.05	0.03
Black, non-Hispanic	12	0.76	0.07	0.06	0.06	0.49	0.02	0.05
Hispanic	17	0.67	0.04	0.02	0.05	0.49	0.03	0.04
Other	7	0.99	0.06	0.05	0.12	0.69	0.05	0.03
Gender								
Female	51	0.94	0.10	0.08	0.15	0.53	0.05	0.03

	Individuals (%)	Total Income	Social Security	DB Pensions	Income from Financial Assets	Earnings	Imputed Rent	Other Income
Male	49	1.03	0.08	0.07	0.15	0.65	0.04	0.04
Marital Status								
Never married	16	0.80	0.04	0.03	0.07	0.60	0.03	0.04
Married	61	1.04	0.08	0.08	0.16	0.65	0.05	0.03
Widowed	8	1.00	0.25	0.16	0.29	0.19	0.07	0.03
Divorced	15	0.95	0.11	0.08	0.13	0.53	0.05	0.04
Age								
32-34	7	0.76	0.00	0.00	0.02	0.69	0.02	0.03
35-44	23	0.88	0.00	0.00	0.03	0.78	0.02	0.04
45-54	21	1.07	0.01	0.01	0.07	0.89	0.04	0.04
55-61	16	0.97	0.03	0.07	0.14	0.65	0.05	0.04
62-64	6	0.95	0.11	0.13	0.19	0.42	0.06	0.04
65-69	9	1.05	0.24	0.18	0.28	0.26	0.07	0.03
70-74	7	1.10	0.31	0.22	0.31	0.18	0.07	0.02
75-79	5	1.11	0.31	0.22	0.38	0.12	0.06	0.01
80-84	3	1.08	0.30	0.21	0.44	0.07	0.06	0.01
85+	3	1.15	0.29	0.18	0.59	0.02	0.06	0.01
SS benefit status								
OASI recipient	26	1.11	0.30	0.20	0.36	0.16	0.07	0.02
DI recipient	5	0.58	0.21	0.04	0.06	0.18	0.03	0.05
SSI recipient	3	0.19	0.02	0.00	0.00	0.02	0.01	0.14
Not receiving SS benefits	66	1.01	0.00	0.03	0.09	0.82	0.04	0.03
Per capita income quintile								
Bottom quintile	21	0.16	0.06	0.01	0.02	0.04	0.01	0.03
Second quintile	21	0.47	0.10	0.03	0.05	0.23	0.03	0.03
Third quintile	21	0.82	0.10	0.06	0.10	0.48	0.04	0.04
Fourth quintile	21	1.30	0.10	0.11	0.21	0.78	0.06	0.04
Top quintile	16	2.54	0.10	0.20	0.46	1.66	0.09	0.03
Age at immigration								
Native born	79	1.04	0.10	0.09	0.17	0.60	0.05	0.03
0-20	6	0.93	0.05	0.03	0.09	0.68	0.04	0.03
21-30	7	0.85	0.05	0.03	0.09	0.62	0.04	0.03
31-40	5	0.65	0.04	0.02	0.07	0.47	0.03	0.03
41-50	2	0.48	0.04	0.02	0.06	0.31	0.03	0.03

	Individuals (%)	Total Income	Social Security	DB Pensions	Income from Financial Assets	Earnings	Imputed Rent	Other Income
51+	1	0.34	0.03	0.04	0.08	0.13	0.02	0.04

Source: Urban Institute tabulations from MINT8.

Notes: OASI = Old-Age and Survivors Insurance; DI = disability insurance. To minimize the effects of outliers, the table excludes individuals whose financial income is in the top 5 percent of their cohort. Values are for the full population, not just those who have the income type.

Per Capita Income in 2060

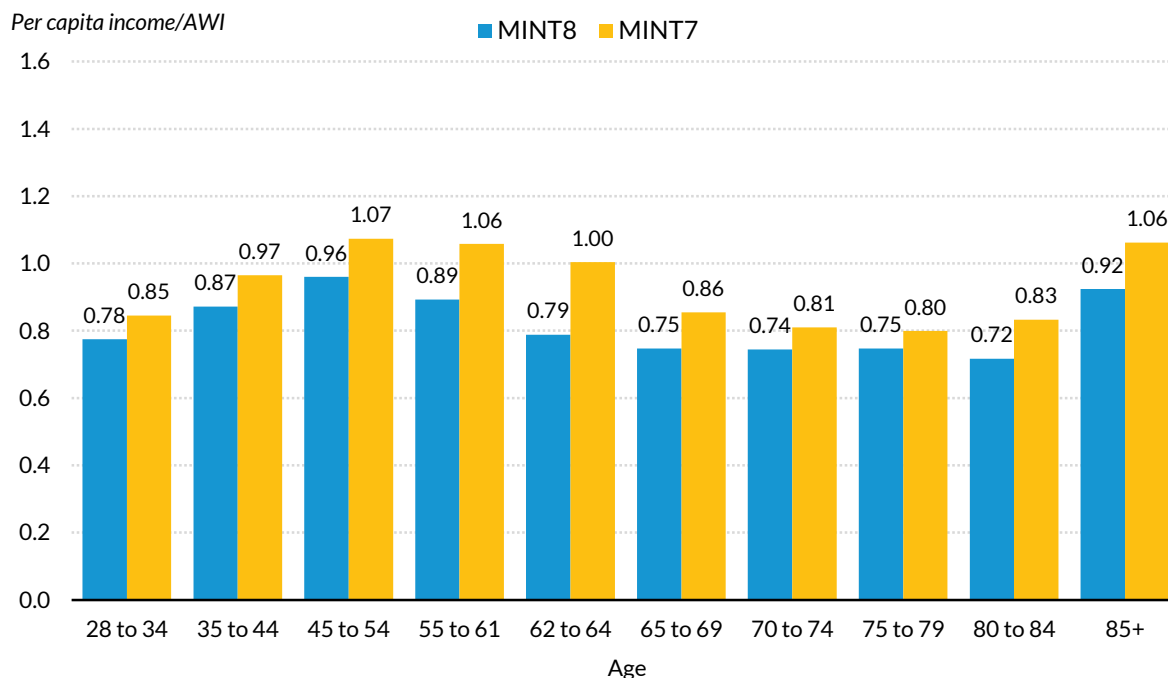
Table 4.11 repeats the categories from table 4.10, but looks at a later projection year: 2060.

- MINT8 projects lower average wage-adjusted per capita income in 2060 for all age groups compared with MINT7 (figure 4.14). MINT8 projects a decline in per capita earnings compare to MINT7, especially for ages 55 to 64. Some of the drop in earnings is offset by an increase in DB pension income. The decline in AWI from the 2012 Trustees assumptions used in MINT7 to the 2018 Trustees assumptions used in MINT8 reduces future Social Security benefits based on lower future earnings relative to historic earnings.
- The composition of income type changes with age. Earnings are the dominant income source at younger ages. Income from assets becomes increasingly important as age increases, reflecting wealth accumulation with age. Social Security becomes an important source of income beginning at age 62 as individuals transition from work to retirement and earnings decline. The annuity value of asset income rises sharply at older ages, and older individuals spread accumulated assets over fewer years of remaining life (figure 4.15).

FIGURE 4.14

Average per Capita Income Relative to Average Wage in 2060 by Age

MINT8 and MINT7



Source: Urban Institute tabulations of MINT7 and MINT8.

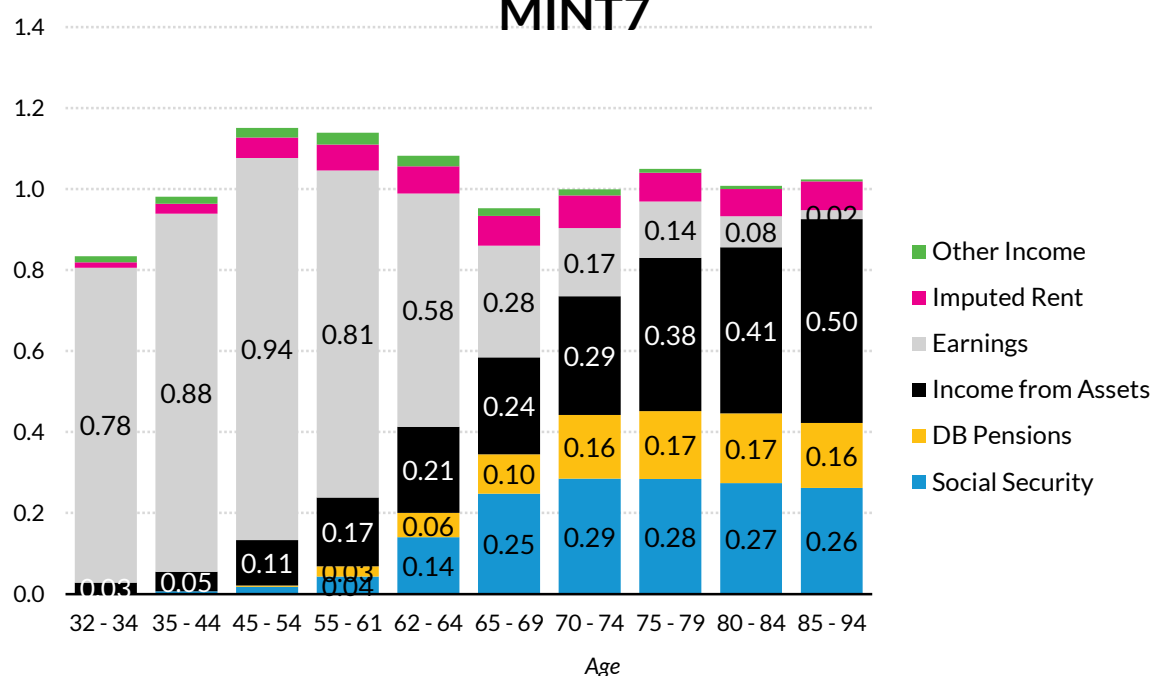
Notes: Per capita income includes earnings, Social Security, DB pension, annuitized asset income, imputed rental income, SSI, and means-tested and nonmeans-tested benefits. Couples split family amounts. To reduce the impact of outliers, the chart excludes individuals with financial income in the top 5 percent for their cohort.

FIGURE 4.15

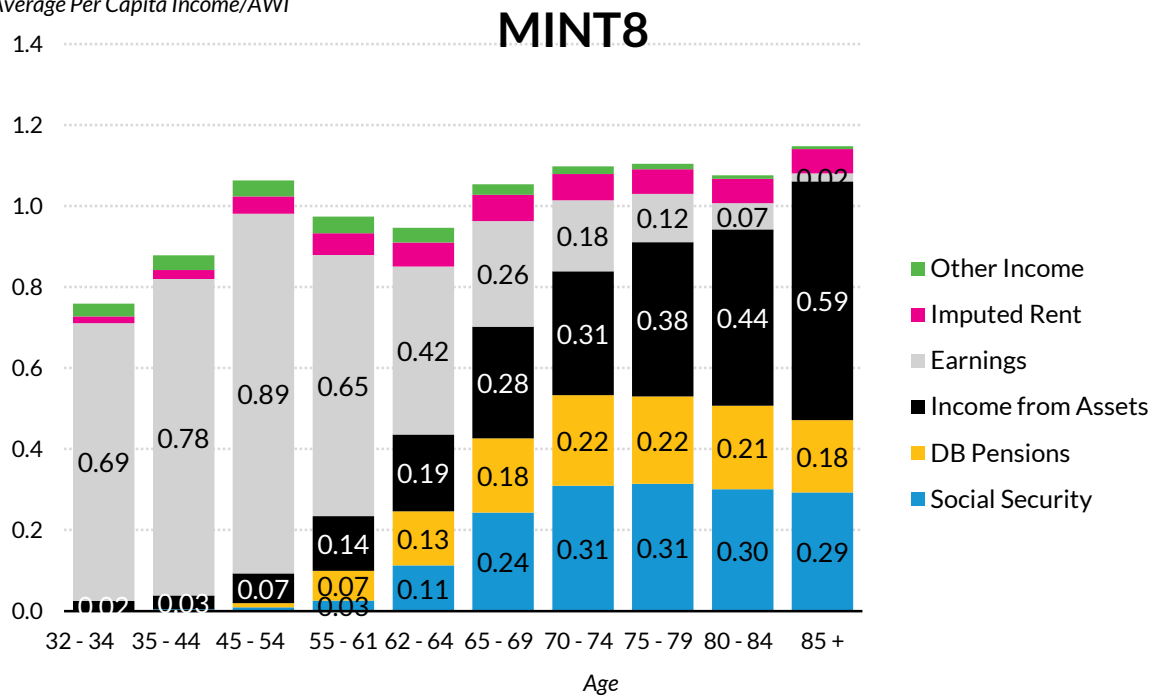
Average per Capita Income Relative to Average Wage in 2060 by Age and Income Type

MINT8 and MINT7

Average Per Capita Income/AWI



Average Per Capita Income/AWI



Source: Urban Institute tabulations of MINT7 and MINT8.

Notes: Couples split family amounts. To reduce the impact of outliers, the chart excludes individuals with financial income in the top 5 percent for their cohort.

TABLE 4.11

Average per Capita Income Relative to Average Wage in 2060, by Individual Characteristics and Income Source, Age 32 and Older

	Individuals (%)	Total Income	Social Security	DB Pensions	Income from Financial Assets	Earnings	Imputed Rent	Other Income
All	100%	0.85	0.09	0.02	0.12	0.53	0.05	0.03
Educational Attainment								
High school dropout	13	0.42	0.05	0.00	0.03	0.29	0.02	0.03
High school graduate	56	0.68	0.09	0.02	0.09	0.42	0.04	0.03
College graduate	32	1.32	0.12	0.04	0.22	0.84	0.08	0.02
Race/ethnicity								
White, non-Hispanic	49	0.98	0.12	0.03	0.17	0.58	0.06	0.02
Black, non-Hispanic	10	0.72	0.10	0.02	0.08	0.44	0.04	0.04
Hispanic	31	0.64	0.06	0.01	0.06	0.45	0.03	0.03
Other	9	1.00	0.08	0.02	0.14	0.68	0.06	0.02
Gender								
Female	51	0.80	0.10	0.02	0.12	0.48	0.05	0.02
Male	49	0.91	0.09	0.02	0.13	0.59	0.05	0.03
Marital status								
Never married	24	0.81	0.06	0.01	0.08	0.57	0.04	0.03
Married	52	0.87	0.08	0.02	0.12	0.58	0.04	0.02
Widowed	7	0.76	0.23	0.04	0.25	0.14	0.07	0.02
Divorced	17	0.89	0.12	0.03	0.13	0.51	0.06	0.04
Age								
32-34	7	0.78	0.00	0.00	0.02	0.71	0.02	0.03
35-44	20	0.87	0.00	0.00	0.03	0.77	0.02	0.04
45-54	20	0.96	0.01	0.00	0.07	0.80	0.04	0.04
55-61	14	0.89	0.03	0.03	0.11	0.64	0.06	0.04
62-64	5	0.79	0.09	0.03	0.13	0.44	0.06	0.03
65-69	9	0.75	0.19	0.04	0.15	0.28	0.07	0.02
70-74	8	0.74	0.25	0.05	0.18	0.18	0.07	0.02
75-79	6	0.75	0.26	0.05	0.21	0.16	0.06	0.01
80-84	5	0.72	0.26	0.05	0.22	0.11	0.06	0.01
85+	7	0.92	0.28	0.06	0.45	0.07	0.07	0.01
SS benefit status								
OASI recipient	32	0.81	0.27	0.05	0.25	0.16	0.07	0.01

Di recipient	5	0.53	0.21	0.01	0.07	0.16	0.04	0.04
SSI recipient	4	0.12	0.01	0.00	0.00	0.01	0.01	0.09
Not receiving SS benefits	60	0.94	0.00	0.01	0.07	0.79	0.04	0.03
Per capita income quintile								
Bottom quintile	21	0.11	0.04	0.00	0.02	0.02	0.01	0.02
Second quintile	21	0.35	0.09	0.00	0.04	0.16	0.03	0.03
Third quintile	21	0.65	0.10	0.01	0.09	0.38	0.04	0.03
Fourth quintile	21	1.11	0.11	0.03	0.18	0.69	0.06	0.03
Top quintile	16	2.39	0.13	0.08	0.35	1.68	0.12	0.03
Age at immigration								
Native born	74	0.91	0.10	0.03	0.14	0.57	0.05	0.03
0–20	9	0.81	0.08	0.02	0.10	0.54	0.04	0.03
21–30	8	0.78	0.08	0.01	0.10	0.53	0.04	0.02
31–40	6	0.48	0.06	0.01	0.06	0.30	0.03	0.03
41–50	2	0.32	0.04	0.01	0.05	0.19	0.02	0.02
51+	1	0.21	0.02	0.01	0.07	0.08	0.02	0.02

Source: Urban Institute tabulations of MINT7 and MINT8.

Notes: OASI = Old-Age and Survivors Insurance; DI = disability insurance. Couples split family amounts. To reduce the impact of outliers, the table excludes individuals with financial income in the top 5 percent for their cohort.

Notes

¹ “S&P/Case-Shiller U.S. National Home Price Index,” accessed September 27, 2013.

² MINT does not annuitize assets. The annuity measure is simply a means of converting the asset balances into a measurable income flow. This metric allows MINT to more accurately compare resources for individuals with DB pensions, which are typically paid as an annuity, with individuals with DC pensions, which are typically kept as lump sums.

³ Changes to the real wage differential are especially consequential for projections of real incomes and poverty.

⁴ The share of Pension Benefit Guaranty Corporation–insured private-sector DB plans with any change in accruals or partial freeze increased from 27 to 35 percent between 2008 and 2016 (PBGC 2016, table S36). Among private-sector frozen plans in 2017, 20 percent were union plans and 51 percent were nonunion plans (Bureau of Labor Statistics 2018, table 5). In 2016, 57 percent of state and local government plans were not open to new employees (Bureau of Labor Statistics 2017, table 1).

⁵ The 2004 SIPP collected wealth data in 2004 and 2005 and pension data in 2006. The 2008 SIPP collected wealth data in 2009 and 2010 and pension data in 2009. The Survey of Consumer Finance is a triennial survey with surveys collected in 2004 and 2010.

⁶ If the total spenddown amount is less than the required retirement account payout, we reduce the retirement account assets as required by IRS and increase the taxable account assets by the difference.

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Smith has written extensively on demographic and economic trends, and their implications for the retirement well-being of current and future cohorts. She has contributed chapters to numerous books, including *Closing the Deficit: How Much Can Later Retirement Help?*; *Redefining Retirement: How Will Boomers Fare?*; *Reshaping Retirement Security: Lessons from the Global Financial Crisis*; and *Social Security and the Family*. She has also published articles in various scholarly journals, including the *Social Security Bulletin*, *National Tax Journal*, and *Journal of Aging & Social Policy*. She has served on advisory panels for the National Academy of Science, Brookings Institution, and Mathematica Policy Research

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